

BUSINESS WEEK

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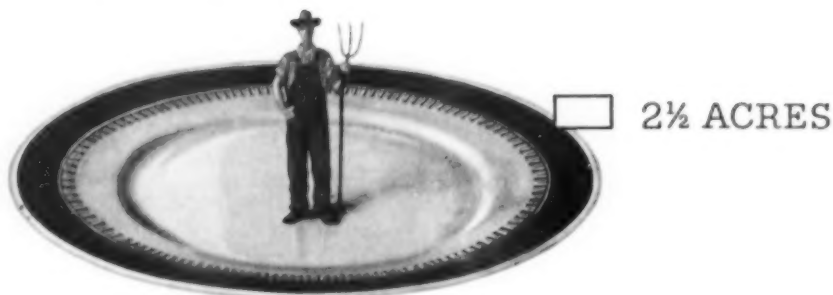
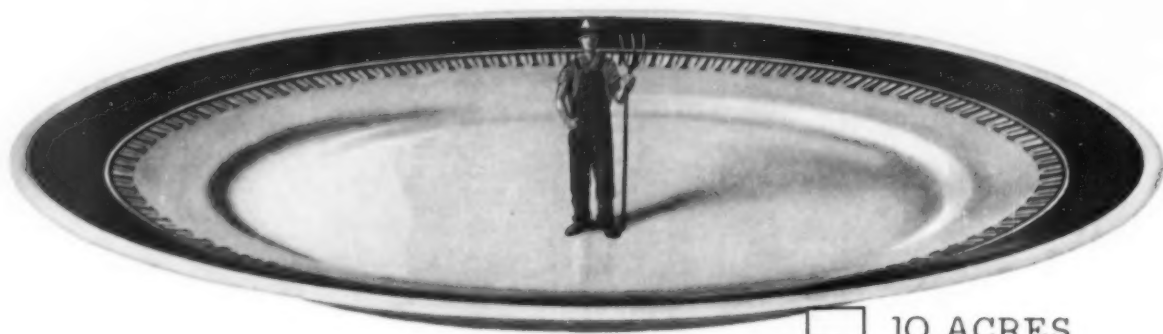


Smith and Cornell of A. O. Smith: From auto frames into glass-lined silos (page 104)

A MCGRAW HILL PUBLICATION

MAR. 17, 1956

E B POWER
UNIVERSITY MICROFILMS
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C P



How big is your Dinner Plate? *Check one*

You're right if you picked 2½ acres. That's how much land it takes, today, to feed the average American.

Most important, "acreage-farmed-per-plate" in the U.S.A. drops steadily through advances in agricultural technology. An example: Shell Chemical's fertilizer, *anhydrous ammonia*, which helps Western farmers grow tastier, bigger crops—with more eye appeal. Applied through the water of

irrigation ditches, or by direct injection into the soil, Shell Chemical's NH_3 fertilizer is so effective that its cost is often repaid *four times* by increased yield.

Supplying superior agricultural chemicals is just one more example of Shell Chemical at work to help the farmer produce more, with less backbreaking work.

Shell Chemical Corporation

Chemical Partner of Industry and Agriculture

SAN FRANCISCO



B.F. Goodrich



TVA's Shawnee Steam Plant

How to burn 600 tons of coal in one hour

A typical example of B. F. Goodrich improvement in rubber

THIS is one of the nation's biggest power plants. Coal that goes into it could furnish electric power for a city the size of Detroit. There's a network of nearly three miles of B. F. Goodrich conveyor belts running in four different directions. One goes over towers 50 feet high, over a road and a river channel; others tunnel underground. They carry 14,000 tons a day into the plant.

One belt half a mile long, running from the river into the plant, would once have been a terrific problem. But B. F. Goodrich had made these big systems practical by developing the cord

belt. Cords running lengthwise, buried in the rubber, add so much strength that a single belt can travel distances once considered impossible. It's flexible too, and stands crashing blows from heavy lumps or sharp edges that would gouge or break many ordinary belts.

All of the other belts have other B. F. Goodrich improvements too, brought by better manufacturing methods—such as making belts under uniform tension, so that all fibers work together; seamless plies to avoid weak spots; cushioned edges for longer wear; patented layers called "breakers" to stand hard blows; mildew treatment to

protect fabric. All these improvements and many others help cut costs through better performance.

Call your B. F. Goodrich distributor for more information about any kind of belting—or hose or other B. F. Goodrich rubber products. *The B. F. Goodrich Co., Dept. M-587, Akron 18, O.*

B.F. Goodrich

**INDUSTRIAL PRODUCTS
DIVISION**



"Take it from a man on the inside..."

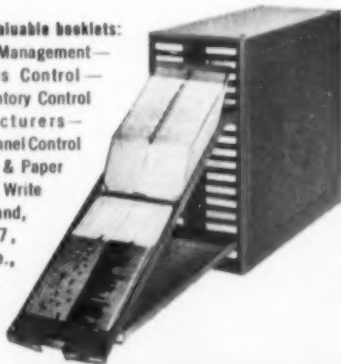
we have tighter executive control over manpower, materials and machines with Kardex Visible."

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BUSINESS WEEK • Mar. 17, 1956

AIR-MAZING FACTS

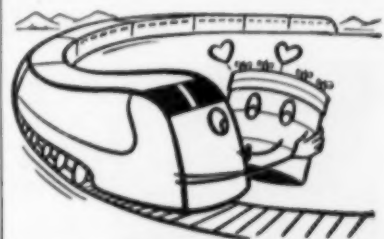
BY O. SOGLOW



HOW NOISY IS "HOT AIR"? Noisy enough to boil water because noise creates heat! In fact, if four million people talked for two hours, the noise of their voices would create enough heat to boil a cup of water. But it takes far less noise than this in a factory to bring neighbors to a boil, create employee fatigue...



DROWNS NOISY AIR! Air rushing through engine, and compressor or blower intakes often sets up a racket that makes employees jittery, annoys neighbors. Keep 'em happy by using Air-Maze filter silencers. They muffle the noise as well as filter the air.



LOCOMOTIVES LOVE 'EM! Diesel locomotives last longer when they're equipped with Air-Maze oil-bath filters on engine air intakes. Filters only need servicing once or twice a year, are typical of the many types developed by Air-Maze for specific industries.

IF YOU BUILD OR USE engines, compressors, air-conditioning and ventilating equipment, or any device using air or liquids - the chances are there is an Air-Maze filter engineered to serve you better. Representatives in all principal cities. For condensed product catalog, write Air-Maze Corporation, Department C, 25000 Miles Rd., Cleveland 28, Ohio.

AIR-MAZE

The Filter Engineers

AIR FILTERS • SPARK ARRESTERS • LIQUID FILTERS
SILENCERS • OIL SEPARATORS • GREASE FILTERS

These turboprop propeller blades

Model CT634S of the Curtiss-Wright Turboelectric series was the first U. S.-designed and built turboprop propeller to be certificated for commercial use by the Civil Aeronautics Administration. This model and others are already in quantity production for military aircraft.

Turboelectric propellers use extruded hollow steel blades produced by the controlled extrusion process developed by Curtiss-Wright. The extruded blade begins as a single-piece alloy steel billet.

With the development of this propeller and the controlled extrusion process came the need to select the right alloy steel. And here's where teamwork paid off.

Republic metallurgists, working closely with Curtiss-Wright metallurgists and engineers, selected an alloy steel with the following properties that make the extrusion process successful from both a production and cost standpoint: freedom from imperfections, uniform response to heat treatment, workability in all stages, weldability, bendability—hot or cold.

These properties in combination with the extrusion process give:

- (1) **IMPROVED STRENGTH-WEIGHT RATIO.** The tough, integral structure of the extruded alloy steel blade provides greater strength and resistance to fatigue with minimum weight.
- (2) **IMPROVED QUALITY.** Greater uniformity is assured by fabricating from a single homogeneous material.
- (3) **INCREASED PRODUCTION.** The number of manufacturing operations is reduced. Production per hour is increased. Floor space is saved.
- (4) **REDUCED COST.** Less steel for original stock, less machining, and lower cost tooling and equipment are required. Expensive welding and accompanying pre-heating and post-heating operations, as well as milling operations, have been reduced.

What about your product? Are you using the right steel in the right place? Republic—world's largest producer of alloy and stainless steels—offers you the services of experienced field metallurgists who will work with your staff in determining where these versatile steels can effect the greatest savings. Just send us the coupon.



Strength-to-Weight or Heat Problems—Republic Has the Answers



▶ **TITANIUM SAVES WEIGHT ON DC-7** with no sacrifice in strength or safety. Republic is an old hand at this high strength-to-weight business. We pioneered the use of alloy steels, then stainless steels—followed by high strength steels. Now come Republic Titanium and Titanium Alloys. Years of experience gained in helping hundreds of manufacturers design and re-design their products to get more strength with less weight are available to you.

▶ **600° F TEMPERATURE HAS LITTLE EFFECT ON DE-ICER DUCTS** made of Republic ENDURO Stainless Steel. Because of its extremely high strength-to-weight ratio, and corrosion-resistance you can use ENDURO in thinner, lighter sections. It resists temperature extremes, holding its strength, toughness, and shock-resistance all the way from blistering heat through sub-zero cold. Republic produces ENDURO® in all commercial forms.

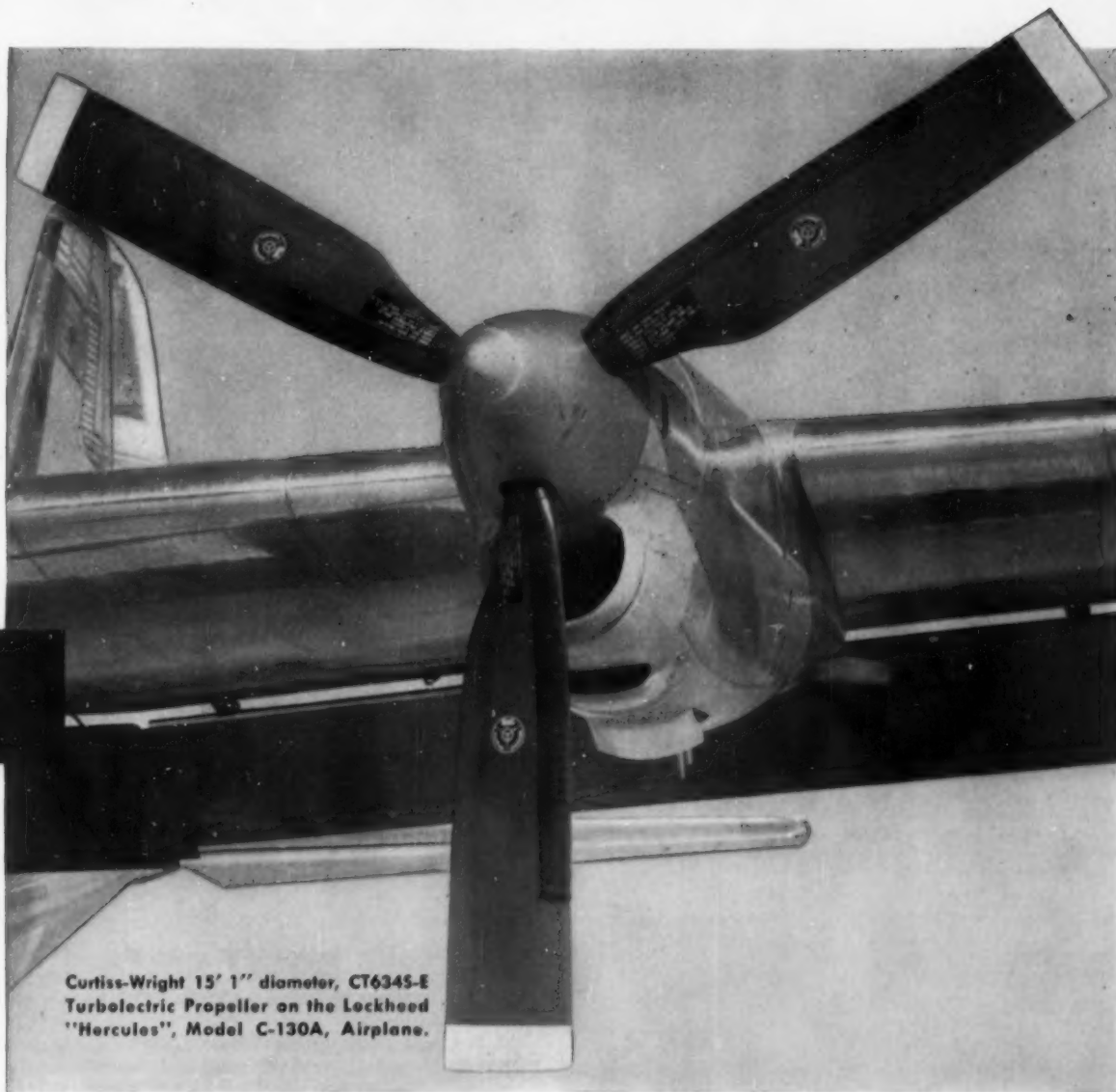


REPUBLIC



World's Widest Range of Standard Steels

begin as alloy steel billets



Curtiss-Wright 15' 1" diameter, CT634S-E
Turboelectric Propeller on the Lockheed
"Hercules", Model C-130A, Airplane.

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R-9851



12,480 man-hours saved by National Distillers

Cistern room to Warehouse moving costs cut 15½ cents
a barrel with Gerlinger



Full kiln loads are moved in a single trip. Up to four vertical and horizontal handlings may be eliminated through use of the Gerlinger Fork-Lift truck. It performs with equal facility inside and outside the storage yards.

J. E. Bland, Plant Manager, puts it this way, "We find the Gerlinger Carrier has resulted in great economies in the handling of thousands upon thousands of barrels of our famous whiskey."

A fast, smooth, economical flow of materials is essential to the manufacture of good whiskey. In Louisville, Kentucky, National Distillers purchased a Gerlinger Carrier to increase the efficiency on a single job — moving barrels from cistern room to warehouse. Use of the Carrier reduced costs of handling by 15½ cents a barrel.

During 1956, National Distillers, Inc. will save 12,480 man-hours because they solved one materials handling problem. Operational costs for two trucks are eliminated and five men have been transferred to more productive labor. Gerlinger made this possible.

Gerlinger equipment is "job-proved". Built to do a specific job well. Your materials handling problem is considered a challenge by the Gerlinger Carrier Company. Your problem is our business. Drop us a card. We'll send complete details showing all models of Gerlinger equipment.



Armstrong Cork, of Gloucester, New Jersey, standardized its equipment with a fleet of nine Gerlinger Lift-Trucks. From ship to storage, each lift-truck carries ten bales and stacks them in tiers ten high. Gerlingers, with crane attachments, provide high-speed loading and stacking. Results: A safe inexpensive operation which moves with the smoothness of a production line. Even cork can be a heavy expense unless handled by modern methods.



In El Centro, California, the Vacuum Cooling Company faced a problem. It was necessary to drastically reduce loading costs, speed loading, and yet maintain the fragile stability of lettuce. Gerlinger Fork-Lift Trucks were the answer.



In Portland, Oregon, Timber Structures built five of the longest beams ever laminated — 104 feet. Problem? — loading for transport to destination. Answer? — one Gerlinger Fork-Lift Truck. It floated 10,146 feet of lumber onto the towing vehicle. Timber Structures keep five Gerlinger Fork-Lift Trucks and three Gerlinger Material Carriers in full-time operation. Why? Production goes up, efficiency improves, and costs tumble with the use of their equipment.



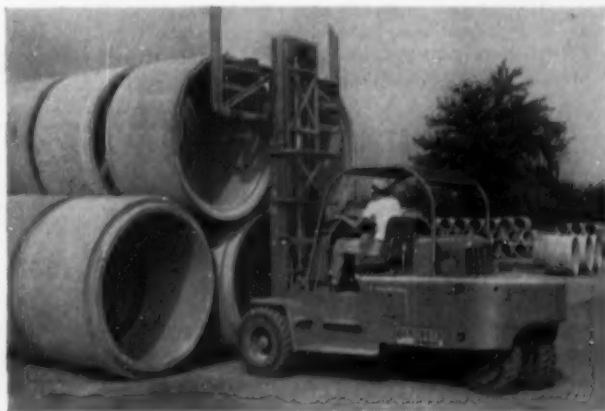
Half-a-million a year is real money. Pope & Talbot, of St. Helens, Oregon, stow 224 million board feet on 32 vessels annually. Lumber ships require \$2,000 per day to operate. Five to ten days have been cut from round trips to the east coast. Reason: Gerlinger Carriers.

Gerlinger Job-Proved Equipment Used Internationally

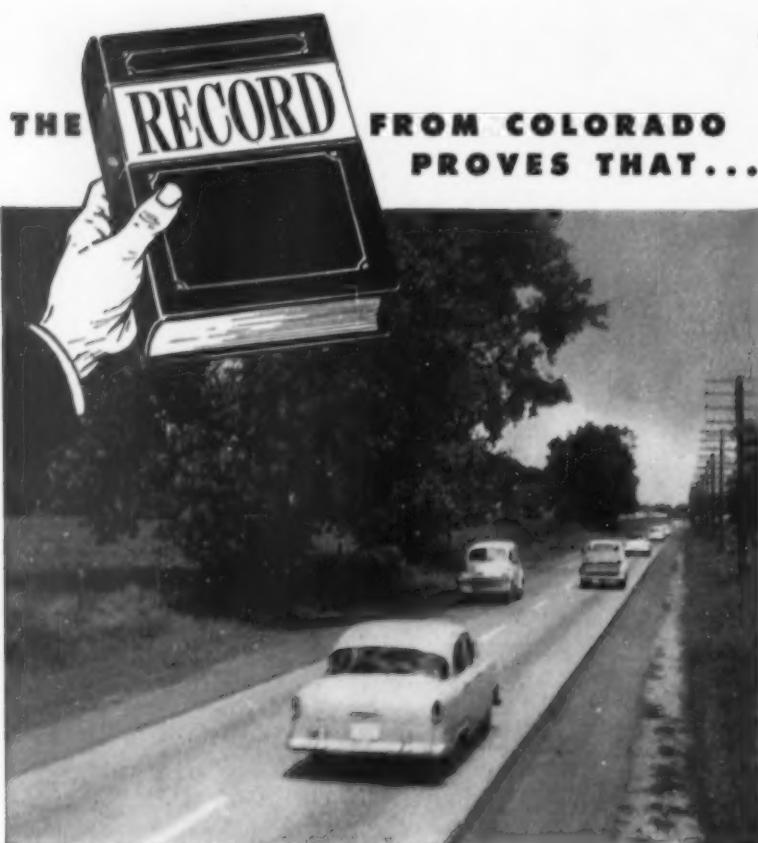
Gerlinger Equipment serves businesses throughout the world. To list the owners would be like reading a "Who's Who" of International Industry. From Finland to East Africa; Australia to South America, plant managers who face the hard facts of reality know the *job proved* Gerlinger provides a practical answer to materials handling difficulties.



GERLINGER CARRIER CO., DALLAS, OREGON, U.S.A.



Three men and a rented portable crane were used full time by the Concrete Pipe Company of Ohio, at Randall. They simply loaded concrete pipe for delivery. A Gerlinger Fork-Lift Truck reduced this to a fast one-man operation. When loading is now concluded, the Gerlinger does its chores of moving pipe around the yard and working the drying kilns.



Concrete Roads Aren't Retired

...they go on and on working for you

This is U.S. 287 between Ft. Collins and Loveland, Colo.—a concrete road built in 1920. Now 36 years old, it's still on the job! Its long service is typical of hundreds of miles of concrete roads in Colorado. Here's the proof:

Total mileage of concrete roads built in Colorado.....	545
Mileage still in service (exposed or serving as the heavy duty base under a layer of resurfacing).....	427
Mileage more than 20 years old and still in service (exposed or resurfaced).....	332

This remarkable performance is a record of low-annual-cost highway service to taxpayers and motorists. And today's concrete roads are even better. *Engineers now can build concrete roads to last 50 years and more.* In contrast to the proven durability of concrete roads, other types of pavement require frequent resurfacing and rebuilding.

Besides great durability concrete roads have much lower maintenance cost and greater safety—night or day, wet or dry. You pay for roads with gasoline and other taxes, so support your highway department to get long-service, low-annual-cost pavement.

PORTLAND CEMENT ASSOCIATION

33 West Grand Avenue A national organization to improve and extend the uses of portland cement
Chicago 10, Illinois and concrete . . . through scientific research and engineering field work

READERS REPORT



Germany's Monorail

Dear Sir:

You printed an article about the experimental Monorail System erected in Houston [BW—Feb. 25 '56, p. 28—First U. S. Monorail Shows Off Its Tricks]. You also mentioned the one in Wuppertal, Germany. For a picture of a two-car train there, see above.

ARTHUR S. LAPINE

PRESIDENT

ARTHUR S. LAPINE & CO.
 CHICAGO, ILL.

Tobacconists' Challenge

Dear Sir:

I would like to call your attention to your story entitled Tobacco Men Challenge Latest Cancer Tie-In [BW—Mar. 3 '56, p. 31].

The Tobacco Industry Research Committee has so far allocated \$14-million to support its program of research by independent scientists into all phases of tobacco use and human health. The TIRC to date has announced research grants and medical student fellowships totaling more than \$838,000.

We are concerned because BUSINESS WEEK's story credits the TIRC with grants of only \$84,000 and uncommitted research funds of \$355,000.

As you may know, the TIRC was formed in January 1954. Lack of scientific facts about tobacco use and health, coupled with the need for an objective and thorough research program to bring such facts to light, prompted the formation of the TIRC. Its research program is restricted to scientists within the continental limits of the U. S. The

Gardner-Denver . . . Serving the World's Basic Industries



Getting over rough ground on the Massachusetts Turnpike project is an easy job for the Gardner-Denver Air Trac® mobile blast hole drill.

Making rock fly—6 million cubic yards of it

Picture a trench one yard wide, one yard deep and 3409 miles long! That will give you an idea of the amount of rock to be removed for the huge 125-mile Massachusetts Turnpike, now under construction.

Removing those six million cubic yards of rock—making it fly through the air in blast hole explosions—is a job demanding top-grade mechanical help. No

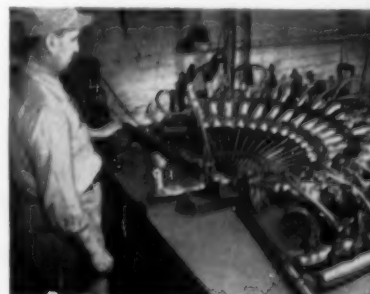
wonder, then, that a dozen big-name contractors have chosen Gardner-Denver equipment to help speed their contracts. That includes 79 Gardner-Denver rock drills and 17 Gardner-Denver air compressors.

On big highway projects, one name comes up over and over: Gardner-Denver—with its 97-year record of engineering foresight. Gardner-Denver Co., Quincy, Ill.

Gardner-Denver Rotary 600 portable air compressors meet the big capacity air requirements of the new 125-mile Massachusetts Turnpike.

Mud aeration is one of the newest in oil well drilling ideas—and, of course, it's done with Gardner-Denver portable and stationary air compressors.

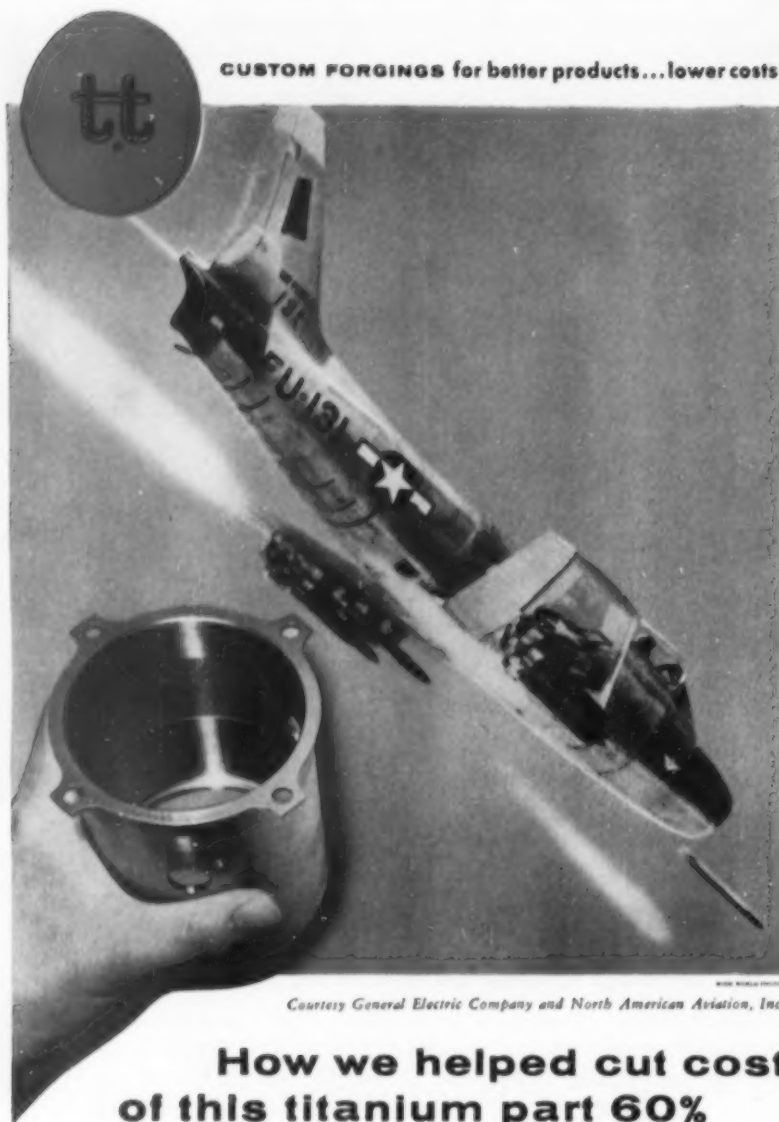
He pushes a button—and drills 20 holes at one time in a gas burner with Keller Tool Airfeed drills® to speed production in this industrial plant.



GARDNER - DENVER

THE QUALITY LEADER IN COMPRESSORS, PUMPS, ROCK DRILLS AND AIR TOOLS
FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

CUSTOM FORGINGS for better products...lower costs



Courtesy General Electric Company and North American Aviation, Inc.

How we helped cut cost of this titanium part 60%

This titanium bearing housing, used in the J73 jet engine that powers the mighty Sabrejet, demonstrates Tube Turns' forging know-how. Formerly it was produced from a 9-pound bar of titanium. Tube Turns pierces and forges it from a 3½ pound piece. Result: 60% savings in costly material... a uniform, high-strength part.

We coordinate all factors in custom forging—die design and die making, quality control, pressing and upsetting. Let us quote on *your* forged parts.



Made by the world's leading manufacturer of welding fittings and flanges for piping

TUBE TURNS

A DIVISION OF NATIONAL CYLINDER GAS COMPANY
LOUISVILLE 1, KENTUCKY

"tt"—T. M. Reg. U. S. Pat. Off.

results of British experiments, therefore, should not be attributed to the TIRC.

Reports claiming the production of cancers on the skins of laboratory animals painted with tobacco derivatives must be viewed against the many reports from scientists which told of their inability to get such results during the same kind of experimentation. Furthermore, many doctors and scientists have said that skin cancer on animals scarcely can be compared to lung cancer in humans.

The unalterable fact is that science does not yet know the specific cause or causes of lung cancer or any other kind of human cancer. The research program of the TIRC is designed to help science gain more knowledge of this tremendously complex disease.

TIMOTHY V. HARTNETT

CHAIRMAN
TOBACCO INDUSTRY RESEARCH
COMMITTEE
NEW YORK, N. Y.

• Reader Hartnett is correct about the amount of TIRC grants. We rounded out the figure to \$840,000 and somehow dropped a zero!

Change in Auto Selling

Dear Sir:

We note that your article on A Basic Change in Auto Selling [BW—Mar.3'56,p104] contains the following paragraph:

"WARRANTY COST. In the future, GM will pay the entire cost of warranty adjustments—work done by a dealer on a new car during the warranty period (90 days or 4,000 miles). In the past, General Motors paid a dealer only 6% of the labor cost.

"This change is tremendously important. Volume dealers have been losing money on warranty work; at the same time, so much warranty work has been moving through their shops that often they have been unable to handle enough retail work to make their service departments profitable."

Actually, General Motors in the past has paid 65% of the labor cost of warranty adjustment.

There is quite a difference.

VAN BUREN THORNE, JR.
GENERAL MOTORS CORP.
NEW YORK, N. Y.

Atherosclerosis Debate

Dear Sir:

Personal Business [BW—Feb.18 '56,p175] discusses the subject of atherosclerosis and the action of

Better Materials Handling Means Better Business



The man who had the answer wasn't invited!

Back orders piling up. Lots of business, but production and delivery lagging—with no apparent bottlenecks. Cost figures that look reasonable on paper, then go haywire in the books. *Why?*

In this case: the man who knew the plant layout best had no seat on the management team—no strong voice in the decisions taken in his special field: the *flow* of materials and goods from receiving through shipping.

This matter of flow is the concern of any company employing three or more people. Wherever it operates best you'll find (1) management recognition of the

vital need for periodic review of its handling system; (2) emphasis on the latest mechanization techniques as the single most important control over operating costs.

In relating this control to your own operations, you'll be interested in the performance of Yale industrial lift trucks and hoists: how they helped a rubber company increase storage space 60%... a major bottler save \$2,330 a month... a large steel concern cut keg breakage 40%...an important California industry save \$196,000 a year.

Full details are available to you, as

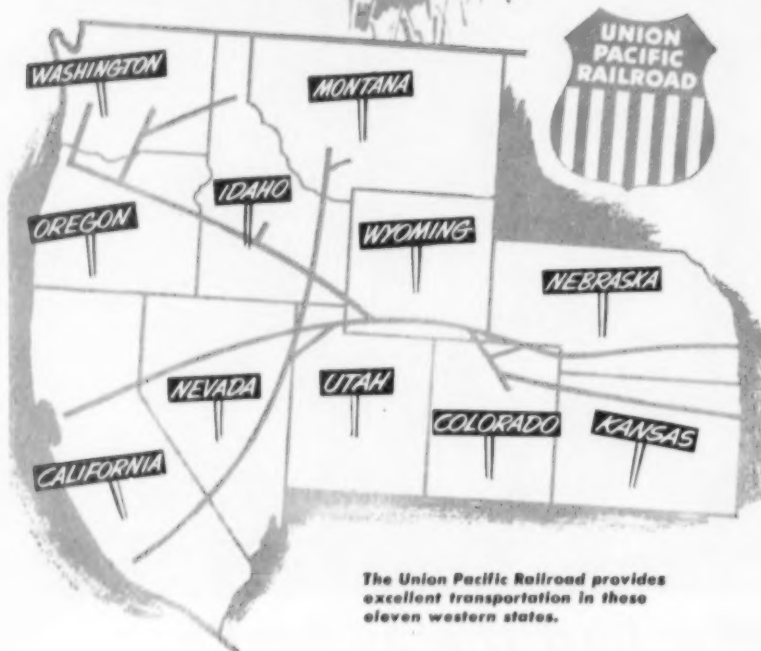
well as complete facts about Yale equipment—the world's most diversified line of industrial trucks and hoists. When you select from this line, you get the benefits of Yale's research into the realities of handling problems in every industry, including the often-overlooked factor of operator safety and comfort. Write: Yale & Towne Manufacturing Company, Roosevelt Blvd., Philadelphia 15, Pa., Dept. 143.

YALE*

INDUSTRIAL LIFT TRUCKS AND HOISTS



from Union Pacific "OUTPOSTS" comes information of pertinent value to SITE-SEEKERS ...



Union Pacific representatives are scattered throughout the vast western empire served by the railroad. In addition to performing their various traffic duties, they act as our "eyes and ears."

Through their many contacts with civic groups, newspaper editors and business leaders, they know what is going on locally. We can ask them questions such as: "How's the labor situation?"... "What about new building projects?"... and so on.

This "on the ground" information supplements the wealth of factual data available at U.P. headquarters. We will gladly give you a confidential report on any area shown on the map if you are interested in establishing a western industrial site. Just ask your nearest U.P. representative, or contact—

INDUSTRIAL DEVELOPMENT DEPARTMENT
UNION PACIFIC RAILROAD
Room 397, Omaha 2, Nebraska

UNION PACIFIC RAILROAD

cholesterol as a factor in this form of heart disease. The only conclusion that can be derived from that discussion is discouraging, since it is stated that once cholesterol has thickened the arteries, "you can't get rid of what is already there." Reference may be made to the report in your sister publication *CHEMICAL WEEK* [Aug. 6 '55, p90] "that lecithin might be helpful in dispersing accumulations of fatty materials in some of the vital body organs."

For a good number of years, research papers and textbooks have been describing the lipotropic action of inositol, choline, and other derivatives present in lecithin which perform the function of preventing the deposition of cholesterol from the blood stream. There has been an ever increasing body of clinical evidence developed recently which appears to support this conclusion.

Since these lipotropic factors are present in the comparatively inexpensive lecithin, for which no prescription is required, it would appear that both preventive and curative therapy is available to the public, which should be promptly educated to its use. It is a safe assumption that if the lipotropic factors perform what may be considered an emulsifying action upon cholesterol, then it might be unnecessary for persons having atherosclerosis to eliminate completely from the diet the so-called fat containing foods, such as meat, fish, butter, cheese, and the like. This therapy might also obviate many prevailing anxieties in waiting for the next "coronary" or "shock."

The fact that some food faddists are ardently promoting soya bean lecithin as a preventive for atherosclerosis should not preclude an early and honest medical appraisal of its efficiency.

I. JORDON KUNIK

NEW YORK, N. Y.

Dear Sir:

If you are going to talk about heart trouble [BW—Feb. 18 '56, p175—*Personal Business*] you had better know that there is not such a word as atherosclerosis. The word is spelled: arteriosclerosis.

WILLIAM B. BARNES

BAY SHORE, N. Y.

• If Reader Barnes will consult page 174 of the Second Edition of Webster's New International Dictionary he will find the word atherosclerosis. It is defined as follows: "A type of arteriosclerosis in which fibrous thickening of the intima is



Corrosion's just a lot of rot to an aggravated stockholder!

Corrosion is very much the business of top-management, particularly those concerned with net earnings and net worth. Investors take a grim view of passed dividends and shrinking quotations when costly corrosion has caused depreciation, delays and lost business.

And so needlessly! Corrosion is being

wiped out in every industry in which Firestone Exon resins are doing a job.

Whatever you make... whatever corrosives you use... whatever equipment you must maintain... you are likely to find your surest protection is an application based on one of many Exon resins. This expanding line has

proven itself in such diverse applications as self-supporting structures, dip and spray coatings, tank liners, pipes and fittings, valves and paints.

Why not drop a note to Firestone today? Let's see how easily *your* corrosion headache can be eliminated by a specifically engineered Exon resin.

• Corrosion is, indeed, every executive's business. And the unqualified success of Exon resins has made it Firestone's business.

Firestone
.....



..... **CHEMICAL SALES DIVISION**

FIRESTONE PLASTICS CO., Dept. 622E, POTTSTOWN, PA.
A Division of the Firestone Tire and Rubber Company



Is he peddling **YOUR** plant equipment?

Rust, scale and corrosion take a heavy annual toll in industry, wherever water is used in volume.

Now, for the first time, you *can* eliminate costly boiler shutdowns, the use of expensive boiler compounds, loss of heating efficiency, increased fuel costs due to scale build up, and you *will* lengthen life of your equipment, with a

PACKARD WATER CONDITIONER

Using nuclear physics principles, the Packard Water Conditioner will prevent rust and eliminate scale and corrosion from your boilers, air conditioning and refrigerating and washing equipment.

THE PACKARD WATER CONDITIONER REQUIRES NO SERVICE,
NO MAINTENANCE, AND USES NO CHEMICALS

Being used successfully by the Army, Navy, Marine Corps, hospitals, institutions, industrial plants, large and small, throughout the country.

WRITE TODAY FOR EXCITING FACTS ON
THIS REVOLUTIONARY NEW PRODUCT

DISTRIBUTORSHIP INQUIRIES INVITED

PACKARD WATER CONDITIONER DIVISION
PACKARD MANUFACTURING COMPANY
BOX 719, JACKSONVILLE, FLA.

**PACKARD
WATER
CONDITIONER**



accompanied by atheromatous degeneration." Our medical sources assure us that it is the specific word for what happens to arteries preparatory to a heart attack.

Hot Prospects

Dear Sir:

. . . We noted the article Hot Prospects for Those Who Diversify [BW—Feb. 4 '56, p132] under Aluminum Fabrication did not make some reference to Harvey Aluminum. . . . As a matter of record, Harvey Aluminum has varied between second and third position since 1953 in tonnage of extruded shapes produced on a national basis. . . .

G. ROGER SMITH
ADVERTISING MANAGER
HARVEY ALUMINUM
TORRANCE, CALIF.

• BW certainly is guilty of omitting Harvey Aluminum which, as the Arthur D. Little report points out, is among those firms that can extrude aluminum for almost any use and distribute such extrusions nationally.

Meeting the Challenge

Dear Sir:

In your editorial Meeting the Challenge [BW—Feb. 25 '56, p192] you listed three ways by which the U. S. could help with the economic development of other parts of the world.

Unfortunately, there is one important ingredient missing from all other countries . . . which will continue to hamper and prevent their growth and development in the future, just as it has done in the past.

This ingredient is personal liberty. There are many supporting pillars to personal liberty. Most, or all of these are missing in nations other than the U. S., and are becoming rather scarce here. Some of them are: The right to private property, the right to a moderate uniform tax load, freedom of the press, freedom of speech, and freedom from pagan religions or dictatorial Christian religions.

It is my personal opinion that unless we can help other nations have these things, our efforts will be wasted; and furthermore, I don't think we can bring these things to other people of the world except by an excellent example set in our own country.

KEITH S. WOOD
PRESIDENT
WOOD BROTHERS MFG. CO.
OREGON, ILL.



*Slow shipments gave Sammy a temper quite rare
As wild as a lion, as cross as a bear.*



*Sam's calm as a clam now, he's found out at last
That RAILWAY EXPRESS is dependably fast!*

The big difference is

Whether you're sending or receiving,
whether your shipment is big or small,
no matter where you ship . . . it pays
to specify Railway Express. You'll find
it makes the big difference in speed, economy,
and safe, sure delivery. It's the complete
shipping service, free enterprise at its best.

New, World Wide Service!

Save money and time on import-export shipments! Now,
overseas air connections provide the most economical,
fast service for international shipping. See your Railway
Express agent for further information.



... safe, swift, sure

Railway Express will take your orders for Care

**This Man Knows that
"An Ounce of Prevention"*
can Save You Money**



...He's Your Safety Director



***Here's a Type of Costly Accident He Prevents:**

In a recent case, a machine operator whose eye was permanently injured (loss of vision less than 20 per cent according to medical testimony) was awarded \$2,220 — \$20 per week for 111 weeks. The wearing of eye protection equipment prevents 99 per cent of these accidents according to the Society for the Prevention of Blindness.

The Safety Director also knows well how to protect worker and company against the hazards

of industrial noise, poisonous dusts and vapors and body and limb injuries. He should, he's a specialist!

As a leading maker of quality safety equipment AO† works closely with safety directors in reducing the costs of industrial accidents. If you are considering an Eye Protection program, for example, call us in for complete facts and figures. The program can pay for itself in less than six months!

American Optical



SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES



*Always insist on the AO trademark
on safety lenses and frames.*

BUSINESS OUTLOOK

BUSINESS WEEK

MAR. 17, 1956



Look at the business portents: consumers' rosy spending plans (page 32); business' upping of its already swollen plant and equipment outlays (page 30); the promised rise in home building (page 33).

Just for emphasis, the stock market rise on Monday pushed the Dow-Jones averages through the long-heralded 500 mark.

This is heady stuff. It seems to spell unlimited boom.

Now pinch yourself. Is it too good to be true? It must at least call for some probing, a search for possible (if remote) pitfalls.

Where's all the money going to come from? And, if funds are available, how much inflation is in store for us?

Those are the short-range problems posed by the outlook.

People are setting their sights on as many new cars and homes as they planned to buy this time last year. **That calls for credit.**

Business proposes to plow 22% more into new plant and equipment than in 1955. Part of the money will come from "internal funds"—money saved—but a lot will have to be got from banks and sale of securities.

Government will spend more. Local governments will have to borrow while Uncle Sam will reach into spenders' pockets.

Here we have the prospect of **piling debts on debts**—and at a time when credit is already strained.

Official policy limited the rise in money supply last year.

This didn't stop growth (or price rises) in 1955, but it had a big hand in the slowdown of the last few months. Yet, **if more money isn't forthcoming, the 1956 expansion will be hobbled**—or worse.

—•—

Business demands on the banks for credit, large a year ago, have been even bigger this year.

This is partly obscured by a very sharp decline in loans to sales finance companies. These concerns have replaced some of their bank debt with permanent capital. But they'll be back for loans if consumers make good on their plans to buy autos and other durable goods.

Meanwhile, **manufacturers and public service companies have been heavy borrowers**. They're into the banks for \$400-million so far this year.

Inventory needs show up clearly in bank borrowings. In the metals, where demand is keenest, manufacturers went to the banks for \$314-million additional during January and February.

It's possible inventory needs will taper off, reducing one drain on credit. But even this isn't sure, considering business prospects.

—•—

Inflation will become a very real problem before the year is out if business follows the course that now seems indicated.

Price trends already are quite perceptibly upward (BW—Mar. 10 '56, p26). And that's with pretty tight reins on money.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

MAR. 17, 1956

Now, presuming that industry and consumers can find the credit to finance their ambitious plans for 1956, it is easy to see that the bidding for both materials and manpower will be intensified.

Manpower, as much as money or materials, may curb 1956 expansion.

Employment in manufacturing—even with the layoffs in autos and some seasonal slack elsewhere— isn't far from the 1943 and 1953 peaks.

More workers could be recruited, of course, but not without some loss in efficiency. Hours worked can be lengthened only a little.

At best, the pool of factory manpower won't stretch much.

Tight manpower always helps to fan the sparks of inflation.

Payrolls rise, increasing the flow of spendable dollars bidding for goods. This arises both from growing employment and longer hours.

Then, too, union demands are fortified at the bargaining table. That will take on added significance as this year's steel talks approach.

Finally, all this takes place in an economic atmosphere where gains won in labor negotiations are readily passed along in higher prices.

Labor market figures for March will show the highest employment ever for the month—probably about 63-million holding jobs.

At the same time, scattered layoffs may again push unemployment up slightly. Roughly 3-million now are out of work.

At 3-million, the unemployed may seem to offer fair chances for recruitment. However, that's not much above the level of normal turnover in a civilian labor force numbering 66-million.

And many of today's idle await recall to their regular jobs.

States and localities, with their tax-exempt bonds, will be competing with industry for money in the securities markets.

Dealers in municipal bonds now have about \$350-million on their shelves, remnants of issues that haven't moved too rapidly. And they face a very heavy schedule of forthcoming offerings.

Corporations can turn to stock, of course, but debt still has its lures because interest is deductible before taxes.

Auto production in March is improving, and this turnaround has helped sentiment. Output won't come close to the same month last year, but it will rival the previous March high of 617,000 in 1951.

When it comes to autos' effect on spring business, the March gain over February will be less than usual.

A normal rise is 15% to 20%; this year it will be about 10%.

Home building, to catch up with last year (as many now seem to think it will), has to build up considerable steam.

New dwelling units started in the first quarter this year apparently will be just over 150,000—nearly 40,000 behind last year.



SHIELDED ARC WELDING

Shielding the arc-welding operation with a stream of argon prevents oxidation of the weld metal and provides high quality welds in aluminum and many alloys at low overall cost. Argon's density, lower thermal conductivity, and smoother arc performance make it widely preferred to helium for such welding.

ARGON

New star performer in industrial gases


In only a dozen years the use of argon has increased over 6,000%. And its career is only starting. New wonder metals, new industrial processes now hardly more than introduced, will share their future triumphs and assured great growth with argon, for the use of argon alone makes their wonders possible.

NCG is producing and already supplying manufacturers with argon and the list is growing rapidly. This is an excellent time to anticipate *your* future needs and gain the security of an NCG Argon supply contract. In cylinders or in bulk. Write or wire now.



ATOMIC ENERGY REACTORS

Argon plays two important roles in atomic energy. First, it is used in the production of zirconium, one of the so-called new "wonder" metals, employed in the construction of atomic energy reactors. Second, argon serves as a coolant in these reactors.



METALLURGICAL DEGASSING

The technique of injecting argon into molten alloy metals before they are cast is now widely used to remove undesired dissolved gases such as hydrogen. Progress in the development and production of new alloys promises a sharp increase in this demand for argon.



TITANIUM PROCESSING

Titanium refining and processing are complicated by this metal's extreme chemical activity. Nitrogen and oxygen are both readily absorbed, and such contamination is avoided by the use of an inert argon atmosphere during treatment of titanium.

NCG
INDUSTRIAL GASES

Copyright 1956, National Cylinder Gas Company

NATIONAL CYLINDER GAS COMPANY
Executive Offices, 840 N. Michigan Avenue, Chicago 11, Illinois



**Budweiser
uses
Outdoor
Advertising
for more**

Put your Advertising Outdoors and Watch America Go Buy

You know that the more your advertising is seen the more you can sell. In a typical market 93% of people SEE OUTDOOR—average person sees it 22 times per month.* POLITZ figures show that average exposure to pedestrians is 64 seconds—to motorists, 21 seconds. And OUTDOOR costs less than any other major medium—only 15c per 1000 in average national campaign.

*Traffic Audit Bureau



"SEE-POWER"

AUGUST A. BUSCH, JR., *President*
Anheuser-Busch, Inc., says:

"The new cut-out painted bulletins present the world-famous BUDWEISER CLYDESDALE HORSES in a really spectacular way. Because each design is rotated to various locations within a city, it gets a new fresh look every time it is moved.

"This is one of the many designs we are using—each built to order for us. The locations are excellent, from both standpoints of visibility and heavy traffic. The fine reproductions give us the opportunity to use the quality art work that symbolizes the quality of Budweiser and sets it apart from all other beers.

"We were among the first to recognize the impact of rotating cut-out bulletins. It is a welcome new development in Outdoor Advertising. They are definitely one of the highlights of our advertising."



OUTDOOR ADVERTISING INCORPORATED

NATIONAL SALES REPRESENTATIVE OF THE OUTDOOR MEDIUM

60 EAST 42nd STREET, NEW YORK 17, N.Y.

ATLANTA • BOSTON • CHICAGO • DETROIT • HOUSTON • LOS ANGELES
PHILADELPHIA • ST. LOUIS • SAN FRANCISCO • SEATTLE

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a thin chemical film helps keep it rolling ...

The cooling system is just as important a part of the Diesel locomotive as it is of your car—and it's subject to the same ills. Recirculating water tends to cause rusting. Unless controlled, flakes of rust would soon clog narrow passages, cutting down on circulation and preventing efficient cooling. Eventually leaks would develop; then a costly major overhaul would be necessary.

Small wonder the railroads take no chances on rust. They count on chromium chemicals, in the form of sodium chromate to help keep 'em rolling.

A small amount of soluble chromium in the cooling water deposits a thin protective film on the interior surfaces of the system. This film acts as an effective barrier between the susceptible metal and the corrosive agents in the water. And the film is self-perpetuating, too. As long as some chromate is present in the water, it will immediately and automatically renew the film if it is broken at any point.

Chromium chemicals help maintain non-corrosive conditions in condensers, cooling towers, and in the cooling

systems of diesels. Essential chrome chemicals are manufactured by Columbia-Southern, also a leading producer of alkalies, chlorine and related products.

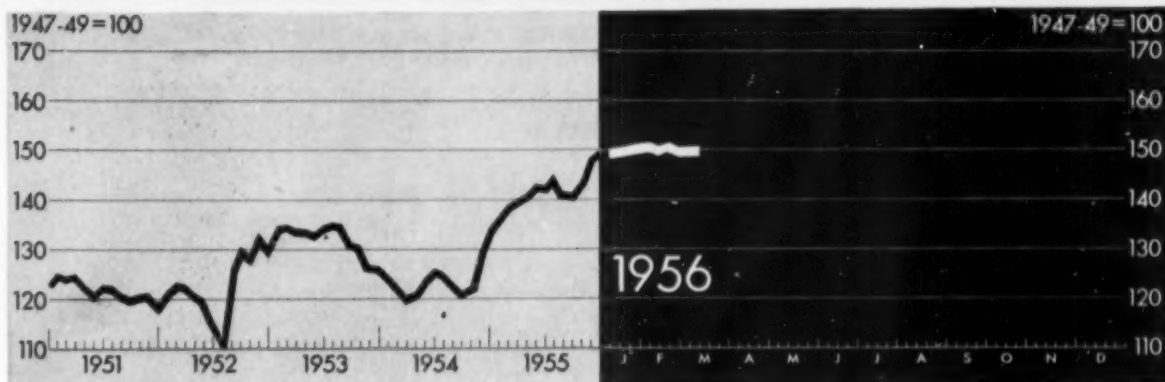
**COLUMBIA-SOUTHERN
CHEMICAL CORPORATION**

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY
ONE GATEWAY CENTER · PITTSBURGH 22 · PENNSYLVANIA

CHLORINE, ALKALIES AND RELATED CHEMICALS
OFFICES IN PRINCIPAL CITIES

IN CANADA: Standard Chemical Limited and its
Commercial Chemicals Division

FIGURES OF THE WEEK



Business Week Index (above) [§] Latest Week 150.7 Preceding Week 150.8 Month Ago 150.9 Year Ago 139.5 1946 Average 91.6

PRODUCTION

Steel ingot production (thousands of tons)	2,433	↑2,462	2,433	2,273	1,281
Production of automobiles and trucks	166,239	↑167,422	165,110	204,285	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	\$77,439	\$64,254	\$74,063	\$59,103	\$17,083
Electric power output (millions of kilowatt-hours)	11,133	11,199	11,343	9,726	4,238
Crude oil and condensate production (daily av., thousands of bbls.)	7,162	↑7,156	7,046	6,845	4,751
Bituminous coal production (daily average, thousands of tons)	1,647	1,662	1,626	1,297	1,745
Paperboard production (tons)	285,170	294,755	283,585	269,618	167,269

TRADE

Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars)	74	72	69	71	82
Carloadings: raw materials (daily av., thousands of cars)	45	46	45	38	53
Department store sales (change from same week of preceding year)	+6%	+4%	+5%	+15%	+30%
Business failures (Dun & Bradstreet, number)	268	293	236	257	22

PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100)	405.5	404.6	406.6	395.3	311.9
Industrial raw materials, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100)	99.1	99.2	99.0	90.7	↑73.2
Foodstuffs, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100)	76.5	76.2	75.5	85.8	↑75.4
Print cloth (spot and nearby, yd.)	20.0e	20.2e	20.6e	18.7e	17.5e
Finished steel, index (U. S. Dept. of Labor BLS, 1947-49 = 100)	157.1	157.1	157.1	144.7	↑176.4
Scrap steel composite (Iron Age, ton)	\$48.83	\$47.83	\$49.00	\$37.50	\$20.27
Copper (electrolytic, delivered price, E&MJ, lb.)	47.765e	47.105e	43.315e	33.000e	14.045e
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)	\$2.25	\$2.23	\$2.20	\$2.46	\$1.97
Cotton, daily price (middling, 14 designated markets, lb.)	35.39e	35.46e	35.25e	33.48e	**30.56e
Wool tops (Boston, lb.)	\$1.80	\$1.80	\$1.80	\$2.05	\$1.51

FINANCE

90 stocks, price index (Standard & Poor's)	372.5	364.5	346.7	284.2	135.7
Medium grade corporate bond yield (Baa issues, Moody's)	3.58%	3.58%	3.58%	3.49%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	3%	3%	3%	1½-1½%	3-1%

BANKING (Millions of dollars)

Demand deposits adjusted, reporting member banks	56,417	↑56,230	57,048	56,769	↑↑45,820
Total loans and investments, reporting member banks	84,338	↑84,190	84,143	84,242	↑↑71,916
Commercial and agricultural loans, reporting member banks	26,454	↑26,316	26,181	22,375	↑↑9,299
U. S. gov't guaranteed obligations held, reporting member banks	28,157	28,272	28,499	34,177	↑↑49,879
Total federal reserve credit outstanding	25,118	25,089	25,104	24,873	23,888

MONTHLY FIGURES OF THE WEEK

		Latest Month	Preceding Month	Year Ago	1946 Average
Housing starts (in thousands)	February	78.0	74.0	89.9	55.9
Employment (in millions)	February	62.6	62.9	59.9	55.2
Unemployment (in millions)	February	2.9	2.9	3.4	2.3
Average weekly earnings in manufacturing	February	\$78.36	\$78.36	\$74.74	\$43.82
Bank debits (in millions)	February	\$162,087	\$187,354	\$149,744	↑\$85,577
Wholesale prices (U. S. Dept. of Labor BLS, 1947-49 = 100)	February	112.3	111.9	110.4	78.7
Personal income (seasonally adjusted, in billions)	January	\$312.5	\$314.8	\$292.2	\$178.0
Farm income (seasonally adjusted, in billions)	January	\$14.6	\$14.9	\$15.7	\$16.9
Retail sales (seasonally adjusted, in millions)	January	\$15,657	\$15,795	\$14,864	\$8,541

§ Preliminary, week ending March 10, 1956.

† Revised.

†† Estimate.

** Ten designated markets.

§ Date for "Latest Week" on each series on request.

GENERAL BUSINESS

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2. INVESTMENT MAKES A DOUBLE JUMP. The latest government survey shows capital spending plans have been expanded just since last fall. 30

3. STILL GOING STRONG. The consumer is in a cheerful mood and his buying plans are just as large as last year's. 32

4. BUILDING: HEADED BACK UP. The old market for housing is fading but a new group of buyers is swinging in to strengthen the demand. 33

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Nickel Progress Report



A crack at the earth's surface shows bulk mining is proceeding far underground.

Once only "waste rock"... now a new source of Nickel

How Inco's mine engineers utilize a panel-caving method in order to recover nickel from huge ore deposits that formerly were not practicable to mine

Panel caving is one of the newest mining methods put into use by The International Nickel Company.

The tonnage of ore handled by this method is immense. Sometimes a single block measures 200 by 800 feet. It may weigh as much as 1½ million tons.

As these heavy masses move downward they break into pieces small enough to drop through chutes and into machine crushers deep inside

the mine. From crushers the ore goes a quarter mile by conveyor to hoists that lift it to the mine head.

From there, the ore is milled as fine as sand. The concentrate is then pumped to the Inco reduction plant 7½ miles away.

Panel mining; new concentrating machinery; new, continuously improved operating practices; pipeline transport. Add them together and you can see how they make possible



Panel caving is one of two bulk mining methods which account for 70 per cent of the company's total nickel output.

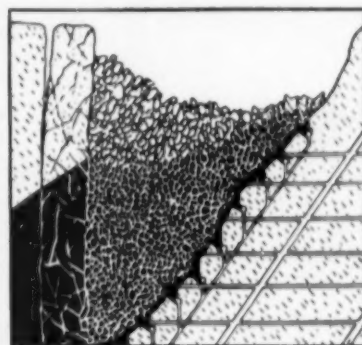


Diagram of panel caving in Creighton mine. The heavy panel of ore and rock sinks, breaking up as it moves down.

Which Mining Method is BEST?

There is no one best method of getting ore out of the ground. Type of ore; type of rock; even the location of the mine must be weighed. Inco uses five underground mining methods at Sudbury:

Square Set Cut and Fill
Shrinkage Blasthole
Panel Caving

production of nickel from ore deposits once only "waste rock."

Inco has prepared a full-color sound film—Mining for Nickel—that shows the operations of modern nickel mines. 16mm prints are loaned for showings before technical societies, engineering classes of universities and industrial organizations. For details, write The International Nickel Company, Inc., Dept. X-100, New York 5, N. Y. ©1950, T. I. N. Co.



International Nickel

Producer of Inco Nickel, Nickel Alloys, Copper, Cobalt, Tellurium, Selenium and Platinum, Palladium and Other Precious Metals.

BUSINESS SUCCESS STORIES

(and how the telephone can help you write your own)



A Norfolk, Virginia, parts distributor now invites out-of-town customers to telephone their orders collect. In seven months, the plan has brought in \$17,798 in sales. Sales cost: less than 2%.



Representatives of a diesel engine company in Little Rock, Arkansas, make appointments with out-of-town customers in advance by telephone. Completed sales visits are up 20%.



The Chicago representative of fifty West Coast lumber mills uses the telephone to contact out-of-town customers and to follow up inquiries. In one year, sales have increased 65%.



A farm equipment wholesaler in Portland, Oregon, telephones out-of-town customers to thank them for their orders. Four of these calls, costing \$4.60, brought \$1180 in additional sales.

Whatever you make, whatever you sell, we'd like to tell you how the *planned* use of the telephone can save time and money in your business. Just call your Bell Telephone Business Office. A representative will visit you at your convenience.

BELL TELEPHONE SYSTEM



LONG DISTANCE RATES ARE LOW

Here are some examples:

New York to Philadelphia	50¢
Norfolk, Va., to Washington, D. C. . .	70¢
Little Rock, Ark., to Dallas	\$1.00
Chicago to Pittsburgh	\$1.15
Portland, Ore., to San Francisco . . .	\$1.30

These are the daytime Station-to-Station rates for the first three minutes. They do not include the 10% federal excise tax.

Call by Number. It's Twice as Fast.

1. Business indexes are on a plateau, and that's as close to a recession as we are likely to get. Page 28.



2. Industry has stepped up its plans for capital spending again—revising the record-breaking budgets it reported last fall. Page 30.



3. Consumers are optimistic, and their spending plans are at least as ambitious as they were last year. Page 32.



4. House buyers eager to upgrade themselves are swinging in to strengthen last year's sagging market. Page 33.



ALL THIS SEEMS TO BE THE

Signal for a New Upturn

This week the pieces fall into place. And they add up to an amazingly favorable business prospect for 1956. So favorable, in fact, that people are already beginning to worry about inflation later in the year.

The readjustment that seemed to be in the cards as the 1955 boom slackened off is turning out to be nothing

worse than a "straight-line recession"—a pause in the upward curves.

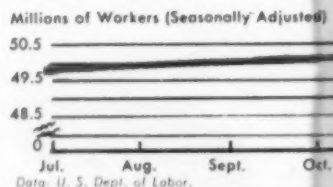
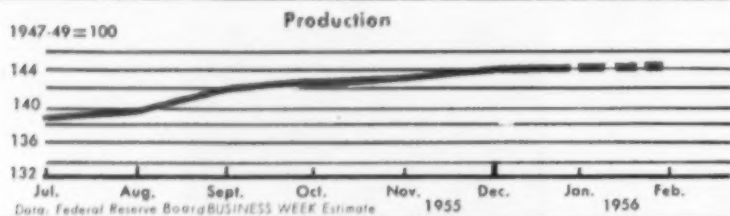
Now, building up with a force that everyone can feel, a new upsurge is in the making. This new upthrust may even be coming too fast. It could prove to be the "bubble on the boom," the speculative spree that leads to a real bust. Nevertheless, the fact re-

mains that the trend is suddenly tilting up again.

On the following pages, BUSINESS WEEK explores the minimal recession we have had, the startling new findings of the SEC-Commerce survey of business spending, FRB's new study of consumer attitudes, and a nationwide BW survey of home builders.



While everyone waited for the correction to come,



1. The Boom Gets Ready to

Business experts walked softly into 1956. By the end of last year, we had clearly reached an economic plateau (BW-Nov.19'55,p25), and this implied a danger of falling off in '56. There were two questions:

- How painful would the readjustment be after 1955's boom?
- After that, would the economy resume the vigorous growth that has powered one boom after another in the postwar period?

Now we have the answer to the first question. We've been going through a "straight-line recession" — something that is really no recession at all but a leveling-off close to the 1955 peaks (charts).

Now, too, the answer to the second question is taking shape: It begins to look as though business is about to take off again with a swoosh.

• **How We Stand**—At the moment, the economy is still on its high plateau. Any number of indexes show this:

• The Federal Reserve Board's index of production climbed during 1955 from 132 to 144, then stuck at 144 last January and February. Expansion in other industries made up for cuts in auto production.

• Non-agricultural employment rose 1.8-million during 1955 to a peak of 50.2-million (seasonally adjusted) last December, then held at about that level in the first two months of the current year.

• Retail sales hit their 1955 peak a bit earlier, in September, and held at a seasonally adjusted level of \$15.8-billion a month through the rest of the year. Early this year, they sagged slightly to \$15.3-billion in February; auto sales accounted for half of this moderate decline.

• **BUSINESS WEEK's** index of business activity (page 23) focuses sharply on the economy's straight-line movement: The index reached 150.7 just

before Christmas and is still at 150.7, with only slight wiggles since Christmas.

• **Effect on GNP**—A straight-line movement of business activity from 1955's yearend highs will push gross national product in the first quarter of 1956 to a markedly higher level than in the last quarter of 1955. That's because GNP was rising throughout the 1955 fourth quarter; also because prices are rising.

Thus, first-quarter 1956 is estimated at an annual rate of about \$403-billion, compared with a rate of \$397.3-billion for fourth-quarter 1955.

I. Topping the Surveys

The outlook revealed by government surveys of business and consumer spending plans looks bright indeed, and still brighter in view of the survey's record of underestimating in recent years.

• **Capital Spending**—Probably the most dramatic evidence of which way the economy will move from its plateau appears in the new capital spending figures compiled by the Securities & Exchange Commission and the Commerce Dept. This survey, based on industry's plans to spend, indicates a huge 22% gain over 1955's record-breaking rate. In dollars, that would mean a rise of \$6-billion to a level of about \$35-billion.

McGraw-Hill's own capital spending survey had already flagged a 13% gain over 1955 as one of the major sustaining factors for the current year (BW-Nov.12'55,p27), but the new SEC-Commerce figures show that business has again revised its plans upward, pulling out all stops.

And the extra measure of confidence from Pres. Eisenhower's decision to run for reelection seems to insure that those plans will be carried out. You got

a reflection of that confidence in the stock market this week when the Dow-Jones industrial index crashed through the 500 mark for the first time in history (page 168).

• **Consumer Spending**—The Federal Reserve's survey of consumer attitudes and expectations (page 32) gives further evidence that the economy's path will lead upward. It shows that consumers are happy about their personal situations, full of optimism about the business future, and busy with plans to buy such major items as houses and autos at about the same record-smashing rate as last year.

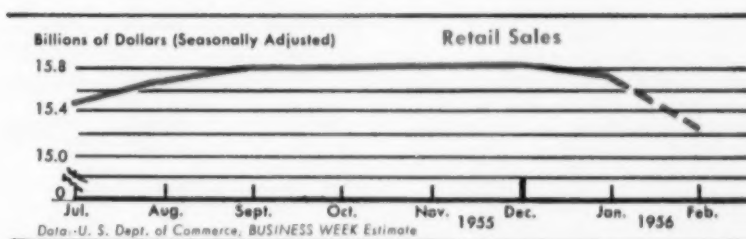
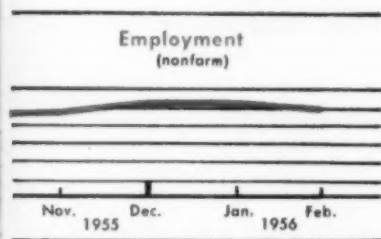
Today's confidence is founded, too, on more than the intentions expressed to economic researchers. Actual consumer spending on housing and autos so far this year has shown remarkable stability; it has laid to rest last yearend's fears that these two major sectors would collapse and drag the rest of the economy down with them.

II. Credit Policy

At least in its early stages, the new boom seems unlikely to be choked off by a clampdown of credit controls. The nation's monetary managers are, so far, unconvinced that a new upsurge is in the making. The prevailing view of the Federal Reserve System is that business could continue on the present plateau for an indefinite time. Fed officials feel that today's conditions reflect a state of balance, with the strong forces merely offsetting weaknesses rather than paving the way for a resumption of the boom.

Fed credit policy has been geared to this outlook. It has shifted from the active restraint it followed last year to a slightly easier policy. The Fed, which prides itself on its flexibility, made this shift in anticipation of declines in autos and housing.

it came—a "straight-line recession" that really has been no recession at all.



Roll Again

According to money men who follow the Fed's thinking: "The red light that the Fed held up last year has been changed to orange; they want to be sure of the trend before moving back to red or all the way to green."

Because of strong demand by both business and consumers, credit remains tight (page 17). But the change in credit policy, slight as it has been, has helped chances for a new upsurge.

III. Industry's Performance

If housing and autos and steel can do well, the industrial economy can't turn very sour, most businessmen feel. All three of these industries are doing much better than most people had expected.

- **Housing**—Last December, housing starts dipped to 72,200, but they rose a trifle in January and jumped to 78,000 in February. It looks as though they will hit 100,000 this month. This means that the sag in residential building is just about over. Seasonally adjusted, housing starts ran at an annual rate of close to 1.5-million early last year, at 1.18-million in December; now they have crossed the 1.2-million level again and look to go even higher (page 33).

Applications to the Federal Housing Administration and the Veterans Administration for mortgage financing bear out this shift of direction. The number of applications was down to 38,300 in December, up to 44,900 in January, and way up to 55,500 in February. It looks as if consumers are doing their best to top their 1955 home-buying performance.

- **Autos**—During the first two months of the year, auto sales have been less than 10% under the same months last year. Against the background of last year's fantastic sales level, this year's performance is a pleasant surprise to

auto dealers. As one Dallas dealer remarked, "You don't expect lamb chops for dessert after you've had sirloin steak for dinner."

However, even with sales holding up so well, the factories have had to cut production sharply in order to clear up record-high inventories resulting from earlier overproduction. On balance, the end of their production kick is turning out to be a healthy thing for the economy, pressure on steel and other materials, and on costs, is heavy enough as it is.

The auto companies have been producing at roughly 20% below last year's rate. If auto sales hold up as well as they have so far—and this week's FRB survey suggests they will—and if, as expected, the auto plants have more than the usual down-time during the big model changes late this summer—there should be significant working down of auto stocks. That would set the stage for a last-quarter spurt in auto sales—provided, of course, the new models are as appealing to the public as Detroit thinks they'll be.

- **Steel**—Despite the cut in auto production, the steel business has been going like crazy, with no signs of slackening. If the industry can hold to the production tempo, another steel output record will be set this month—the last peak was reached in January, when 10,800,000 tons were poured.

Expectations that prices will be boosted when the steel union gets a sizable wage boost this summer—together with some fears of a steel strike—add pressure to demands for steel. But the big capital spending programs insure that the pressures will stay on, may further intensify. If autos come back strongly for more steel toward the end of the year, there just isn't going to be enough to go around.

IV. Confidence Is High

A new wave of confidence is sweeping the business community—and businessmen, looking forward to the elec-

tion, refuse to pin this confidence on political factors alone.

Of course, business generally was exhilarated by the Eisenhower announcement, and this feeling was by no means limited to Republican businessmen. Last week BUSINESS WEEK reporters talking to a broad cross-section of executives frequently heard a sentiment like this: "I'm a Democrat, but I think Ike's decision was good for business."

There is also bipartisan agreement among businessmen that, regardless of the election outcome, the business outlook is good. Everywhere the expectation is for steady growth.

"I don't hear anybody talking 'poor mouth,'" says an Alabama textile manufacturer. A Cleveland industrialist thinks the economy will climb steadily to a \$500-billion level within 10 years. A Worcester machinery maker says there'll be enough business for every company "with a solid growth—but not the California-type expansion."

A number of businesses whose sales are tied closely to military programs are counting on an upsurge in defense spending. But nowhere in the business community are there signs of worry that a hot war is in the offing.

V. Potential Dangers

Fundamentally, businessmen are confident about the future because of the big factor that always cheers them: full order books. But in many quarters you can detect some apprehension that it's all a little bit too good to be true.

- **Debt**—For example, a worried Atlanta banker said: "We don't know exactly what to make of the rate of consumer borrowing. It can't keep on going up indefinitely—there has to be a limit to the amount of money a customer can pay out each month in the form of fixed installment payments."

Like this banker, many executives express worries that the longer and the bigger the level of consumer debt grows, the harder it will fall. Last year, con-

sumer credit went up \$6-billion—50% more than the biggest previous postwar rise. And mortgage debt on one-to-four family homes rose \$13-billion—twice the average annual postwar increase.

But those who persist in worrying about a collapse from over-extension of debt are in a minority. Most businessmen seem to feel, in the words of one Detroit non-auto manufacturer, "Consumers' sights are so high we'll never get caught up—all yardsticks are gone."

• **Inventories**—There is little disposition, either, to worry about inventories. Yet inventories have been growing at a brisk pace. In the last quarter of 1955, businesses were adding to inventories at a seasonally adjusted annual rate of \$5.3-billion.

With prices and costs rising, with heavy wage bargaining or labor conflict ahead, and with strong confidence that the over-all business outlook is favorable, companies will be straining to add to inventories in the period immediately ahead. Worriers who refuse to buy the "new era" line break out in a cold sweat when they think of a simultaneous downward break in inventories, consumer installment borrowing, and mortgage borrowing.

• **Grounds for Fear**—The worriers fear that a truncated readjustment may set the stage for a new upsurge that will really be the bubble on the boom. They fear that a continuing boom will roll over the federal monetary authorities' efforts to hold prices in check. A round of inflation then could produce a "profitless prosperity" in which costs go on rising while a breakneck fight for the consumer's dollar ruins the smaller and weaker outfits.

Some pessimists also fear that American business isn't paying enough attention to international developments—deterioration of the West's position in the Middle East and in Asia, serious economic strains in Britain, a major crisis brewing in France, Russian economic penetration of new markets. These, the worriers say, are things that might chill our business climate.

VI. Betting on Growth

Nevertheless, at this point, American business is rolling along at record levels, untroubled by such nightmares.

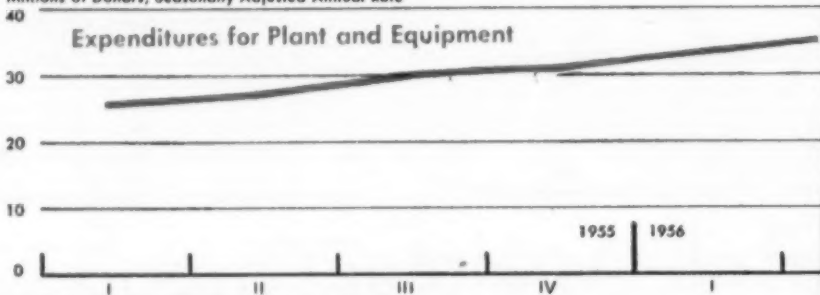
Confidence in America's political and economic future never looked stronger. And the proof is not just in what people are saying, but what they are doing—pouring billions of dollars into capital expansion, into research and development, into building highways and schools and hospitals and office buildings, into strengthening the national defenses, into raising standards of housing and over-all consumption.

In a word, America is still betting on growth.



Businessmen are betting

Millions of Dollars, Seasonally Adjusted Annual Rate



Date: Securities & Exchange Commission & Dept. of Commerce.

Business Steps Up Its Spending Plans

Millions of Dollars, Seasonally Adjusted Annual Rate

	1955			
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Manufacturing	10.2	10.9	12.0	12.6
Durable Goods	4.8	5.1	5.8	6.2
Non-Durable Goods	5.4	5.8	6.2	6.4
Mining	0.8	0.9	1.0	1.0
Railroads	0.7	0.8	1.0	1.2
Other Transportation	1.5	1.6	1.6	1.7
Public Utilities	4.0	4.1	4.4	4.7
Commercial and Other	8.5	8.9	9.7	9.7
Total	25.7	27.2	29.7	30.9

Date: Securities & Exchange Commission & Dept. of Commerce.

2. Investment: Double

The boom in industry's spending for new plant and equipment, which began a year ago, is gathering new steam.

A survey of investment intentions—released this week jointly by the Securities & Exchange Commission and the Commerce Dept. in Washington—shows that spending will run well above 1955's all-time high of \$28.7-billion. For 1956 as a whole, the survey discloses plans to lay out almost \$35-billion for expansion. If it is borne out—and such surveys have proved quite reliable—that will be a 22% gain.

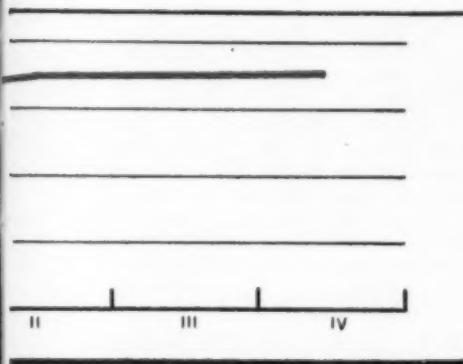
• **Leading Expanders**—Equally impressive is the way all classes of industry share in the planned increase. Durable goods and railroads are in the van, with plans to spend 41% and 42% more than last year. Even the laggards—transportation industries other than railroads and the catch-all category of

"commercial and other"—foresee rises of 11% and 12%.

Within the durables group, the biggest jump is in motor vehicles and equipment, which spent \$1.1-billion last year for new plant and equipment and plans to spend \$1.9-billion this year. Iron and steel will go from \$863-million last year to \$1.3-billion this year if present plans are carried out. Primary nonferrous metals industries will practically double last year's \$214-million. Electrical machinery and equipment companies expect to climb from \$436-million to \$579-million; non-electric machinery makers will boost their capital spending from \$809-million to \$1-billion.

Chemicals and allied products lead the nondurables parade; last year's outlays of \$1-billion are expected to rise to \$1.4-billion. Another solid gain is plan-

on growth, not just next year but for a long time ahead.



1956

1st Qtr.	2nd Qtr.	Full Year	% Gain '55 — '56
13.7	15.4	15.0	31%
6.8	8.1	7.7	41%
6.9	7.4	7.4	22%
1.1	1.2	1.1	19%
1.2	1.3	1.3	42%
1.7	1.7	1.8	11%
4.8	5.0	5.0	16%
10.7	10.7	10.6	12%
33.2	35.3	34.9	22%

Jump

ned by petroleum and coal industries—from \$2.8-billion to \$3.3-billion.

The source of the extra push on capital spending by industries is significant; it shows the way confidence in the need for extra capacity has fanned out across the whole of industry in recent months.

• **Comparing Notes**—The SEC-Commerce survey shows that U.S. industry has pushed its capital spending plans well above the bullish levels reported to the McGraw-Hill Dept. of Economics last November (BW—Nov. 12 '55, p27). The McGraw-Hill survey found that industry over-all planned to increase its capital spending in 1956 by 13% over 1955. The new SEC-Commerce study reports a 22% rise.

The two surveys were almost unanimous in reporting the capital spending plans of manufacturing industry. McGraw-Hill's survey found that manufac-

turing's investment would go up 30%; SEC-Commerce reports that manufacturing will show a 31% gain. The two surveys also jibe closely on plans of "commercial and other" industries, including communication, construction, finance, and service—the earlier survey reported a rise of 10%; the later, a rise of 12%.

But in some other industries there was a striking boost in capital spending plans from one survey time to the other. Last November, for example, mining planned to reduce its capital spending by 15% in 1956; now it intends to increase spending by 19%. Public utilities switched from a 10% drop to a 16% rise.

Railroads, which planned earlier to increase their capital outlay by 27% this year, now talk of spending 42% more in 1956.

• **Change in Mood**—While the McGraw-Hill and SEC-Commerce surveys differ somewhat in their coverage, there is no doubt that the reported changes mean a very significant increase in industry's target for expenditures since last fall.

To some extent, the increase may represent the normal tendency of industries to report bigger capital spending plans as the time for action draws nearer. Some companies are reluctant to report on spending plans that may still be in a tentative form a number of months before the outlays are to be made. However, the raising of sights shown by the new survey appears also to indicate that business has gained extra confidence in the intervening period, as it became increasingly clear that the economy could roll with the punch of a moderate decline in auto sales and housing and that the long-run course of the U.S. economy is set for growth. Widespread expectations that Pres. Eisenhower would run again and that business would very probably have a sympathetic Administration in Washington for another four years undoubtedly had a part also in giving capital spending intentions still another push.

• **Greater Need**—Business investment plans increasingly demonstrate that management has swung to the conviction that if you want future growth, you've got to put money into producing it.

Business sees the U.S. economy being powered to increasingly higher levels by the rapid rate of technological development and new discoveries, by popula-

tion expansion, by the continuing need to maintain high levels of defense spending and to keep pace with the rate of Soviet expansion in the economic as well as the military field, by the unflagging appetite of the American labor movement for higher wages that must be turned into higher productivity, and by the desire of the entire American public to attain higher standards of living.

Low-income groups are graduating to income levels where they greatly swell the demand for better housing, autos, other durables. Low-income regions of the country are rapidly pressing forward. So industry sees America as the greatest of the "underdeveloped countries."

• **End in Sight?**—In some quarters, however, there are some who fear this powerful belief in expansion as the latest manifestation of "new era-ism" that characterizes the late phase of a long boom. And the present boom, with only minor dips, has been going on since 1938.

The latest SEC-Commerce survey of capital spending plans demonstrates that, as far as the preponderant share of American industry is concerned, the end is far from being in sight. For these plans are postulated not simply on the expectation that 1956 will be a good year but that for several years longer the road leads up.

• **Building Up**—Every quarter of the current year should show a gain in capital spending. In the fourth quarter of 1955, business spending on plant and equipment was running at an annual rate of \$30.9-billion; in the first quarter of 1956, it is a rate of \$31.6-billion. This means that, if the SEC-Commerce forecast of a \$34.9-billion total for the year is to be attained, capital spending will have to grow at an average quarterly rate of more than \$2-billion in each of the remaining quarters.

As if to prove that this upsurge in capital spending is no statistician's pipe dream, a wave of new company spending announcements came out this week, including:

• U.S. Steel Corp.'s plan to increase capacity by 10% at its Gary Steel Works and its South Works in Chicago.

• Carrier Corp.'s plan to spend \$12-million for new buildings and equipment at its Thompson Road Plant in Syracuse.

• Pennsylvania Salt Mfg. Co.'s announcement of a five-year \$55-million expansion and improvement program.



The consumer got his second wind.

Customers Are Cheerful, Eager

	In Early 1954	In Early 1955	In Early 1956
More of them feel better off	36%	38%	39%
More of them expect good times .	43%	59%	64%

So...

They plan to buy:

	In Early 1954	In Early 1955	In Early 1956
Houses	6.6%	9.4%	9.6%
Home improvements	19.6	22.7	22.6
New autos	7.9	8.2	8.2
Used autos	6.4	7.5	7.2
Furniture and appliances .	26.9	28.5	28.0

3. Still Going Strong

It looks as though the forecasters have been underestimating the role that the consumer will play this year in building a fire under the economy. This week, the Federal Reserve Board released its annual survey of consumer finances and attitudes. It indicates that the consumer will give business a powerful shove this year.

Hitherto, the consumer's position has been somewhat uncertain. There has been doubt about his willingness to pile new debt on top of the enormous amount he already owes. The drop-off in retail sales, though slight (chart, page 29), strengthened these doubts.

• **Big Items**—Now the preliminary data for this year's survey, collected by the University of Michigan's Survey Research Center, indicates that consumers are planning to buy the big items—houses, cars, furniture, and appliances—at about the same level as they did at the beginning of record-smashing 1955 (table, above).

In general, here is what the 2,800 spending units sampled early this year signaled:

People's attitudes toward general business conditions, their own expectations, and their present financial condition are clearly optimistic. The most marked change from last year lies in the attitude of the pessimists. Fewer people this time said that they were worse off financially than a year ago. Broadly speaking, people feel at least as optimistic as they did a year ago; the

changes appear to be on the up side.

More people said this year that they expect good times in the next 12 months than thought so last year at the same time. Fewer think that bad times are in the offing.

Consumers plan to buy about the same number of cars, houses, furniture, and appliances this year as they did a year ago.

About the same number plan to put money into improving their homes this year—but they plan to spend more per job. The median expenditure planned last year was \$330; this year it is \$380.

One of the bright spots in the latest survey is the fact that consumers in most occupational groups and income brackets share the generally cheerful view.

Self-employed are the happiest of all: Three-fourths of them expect times to be good this year. As might be expected, farmers are the gloomiest group, but even among farmers there is a substantial majority that expects a prosperous year.

Even brighter is the prospect raised by consumer intentions to buy autos. Judging from the survey, it looks as though Detroit had a fighting chance to equal last year's tremendous sales record, an outcome that would surprise almost everyone, including Detroit.

• **Too Low Last Year**—This raises an interesting point. When interviewed last year, consumers erred about their intentions to buy cars—and they erred

on the low side. They said that they planned to buy only a few more autos than in 1954, markedly less than in some other recent years. But before 1955 was over, they had run auto purchases up to a new grand total. Was it the new models that changed their minds, or what? Have they underestimated again this year or now do they mean what they say?

Another pleasant note in the survey is the number of consumers planning house purchases, which runs about the same as it did in last year's survey. This flies in the face of almost all earlier predictions about the size of the housing market in 1956—but it agrees with what BW reporters found when they talked to builders this week (page 33).

One note of caution comes in here. An analysis of the survey shows that the average income of prospective house purchasers is somewhat lower than a year ago. Hence, there is a possibility that some of these plans might run into trouble.

In sizing up consumers' plans for taking on more credit, the survey comes up with a somewhat ambiguous result. The number of people planning on using installment credit to buy furniture and household appliances is lower than it was a year ago. But this doesn't apply to cars. Prospective auto purchasers signal that they plan on using more installment credit than they did a year ago—a prospect that will please the car makers but that may disturb some of the other industries fighting with the car industry for the consumer's dollar.

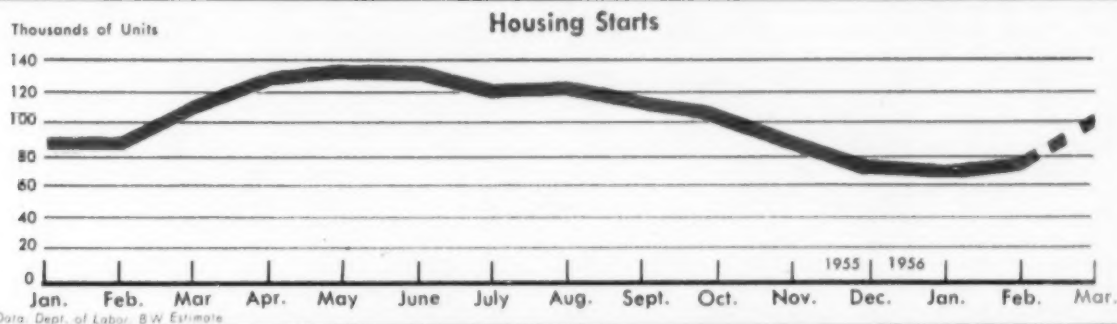
• **The Doubts Fade**—The latest survey seems to resolve some of the doubts about the consumer's intentions that were raised by the university's so-called interim survey taken in the fall (BW—Dec. 3'55, p160).

That survey produced a somewhat uncertain impression of what lay in the consumer's mind. On the whole, the tone of the survey was optimistic, but this finding was clouded by the fact that consumers' intentions were tending to level out. It looked very much as though business could not hope for any major impetus from this quarter for a while, a forecast that seems to have been borne out by the drop in over-all sales and the 10% drop in car sales.

Quite obviously, between then and early this year when the current survey was taken, the consumer got his second wind—and took off again.



A new kind of housing market is opening.



4. Building: Headed Back Up

Just one month ago, housing looked like a weak spot in the future of the economy. Today, it gives a picture as bright as any it has ever given. And this change appears to reflect a deeper shift in the nature of the market itself.

For almost a decade after World War II, under pressure of severe housing shortage, the big market was in the mass house—priced as low as possible, most often with two bedrooms—and frequently sold as much on terms (nothing down, 30 years, pay like rent) as on shelter value.

This market began to fade away last year. It's dropping rapidly now. But swinging in behind it is a different market. And this new market is what produces the fresh optimism among builders.

• **Men With the Money**—The bulk of the new-house buyers today are "second-buyers"—families with more children and larger incomes who are trading up from the "shelter" home they bought five or six years ago. They're less concerned by down payments, or credit regulation because, in most cases, they're making a profit on the sale of their first house and are putting all that equity into their new one.

On these people rests the foundation for many builders' expectation that total house starts this year will equal 1955's 1.3-million starts, and that the market will roll along at a much higher dollar volume.

BUSINESS WEEK found last week builders and mortgage lenders across the nation generally satisfied. If some of their hosannas were muted, few of them were much worried by the outlook.

The consensus runs like this:

Sales have picked up sharply in the last six to eight weeks. In many cases, they're not only better than in the slow fourth quarter of 1955, but well ahead of January and February last year.

Financing is causing no real trouble. Discounts on VA and FHA mortgages are common where down payments are low, but the rate is not uncomfortable.

Down payments are not an important bottleneck. Some areas report that as many as a third to a half of their sales are "conventional"—down payments of one-third or more.

Weakest point is in the lowest price brackets.

Prices are up everywhere. And they will go still higher before the year is over.

• **Round-Up**—Builders almost everywhere agree the upward turn has come. F. W. Dodge Corp., a major statistics-gathering organization in the construction field, reports that contract awards for residential building rose 7% in February over the year-ago mark, which was, in turn, well above the 1954 level.

In Buffalo, builders say business since January has been "tremendous," with sales 30% ahead of last year. In the Pittsburgh area, first-quarter starts are up 22% over the slow winter period. Chicago has a 20% rise, sees no sign of a let-up. In Seattle, where builders were seriously concerned about unsold inventory a few months ago, there's talk of a new-house shortage by midsummer, with builders unable to keep up with demand. In Los Angeles, an overabundance of builders is of far more concern to housing men than any problems of customers or financing.

Builders are wary on over-all predic-

tions, but few are hedging their own plans. Typical is a group surveyed in Denver. For the area as a whole, builders estimated the year's starts might be off an average 10%. But individually, every one planned to erect as many houses as last year.

Few builders suggest specific reasons for the upturn. And surprisingly, only a handful blame the winter turndown solely on the slightly tighter credit terms established last August, when repayment time was reduced from 30 years to 25 years.

Similarly few believe the recent switch back to the 30-year term is an important force behind the current surge. And builders generally indicate that a "no down payment" come-on is no longer an important factor in sales. "Nobody gulps at the down payment figures any more," says a Philadelphia builder. Cleveland banks and savings and loan associations have been holding out for 10% down on VA mortgages, 20% to 25% on FHA loans regardless of the much lighter "official" restrictions, and contractors still expect starts there to increase at least 5%. But most common are reports like this from New England: "Most customers are putting up 10% to 20% more than the down payment required."

Through all the builders' answers runs this consistent theme: What drop there is comes almost entirely in the lower price brackets (from \$9,000 to \$15,000 depending on scales in individual areas.)

Among the reasons for this:

• Demand for low-priced homes is strongest among newly formed families—and that group is getting smaller. The large number of 3-to-8-year-old "shelter"

houses now coming on the market as re-sales can handle a large part of this smaller demand.

- More than half of the current buyers are already homeowners. They want bigger, better houses and they have enough equity in their present homes for heavier down payments.

- The overwhelming trend is to three or more bedroom homes. And larger houses can't be built in the lower-price ranges.

- Cost increases seem proportionately greater in the lower-priced houses. A \$500 increase in basic labor and materials costs adds only 2% to the selling price of a \$20,000, but it's 5% on a \$10,000 house. VA and FHA officials are resisting higher appraisals, making financing and selling lower-cost houses a tougher job. For this reason alone, many builders are moving away from low-cost work.

- Land prices are still sweeping upward, and the increases are making it almost impossible to find land that's suitable for low-cost homes.

- **Hordes of Them**—If hordes of house-lookers are an indication, the public is certainly as interested as ever in the builders' product. In Des Moines, a home show drew 75,000 who stood in hour-long queues to get in at 75¢ a head. In Phoenix, a new development opening pulled 40,000 visitors in two days. In some cases, of course, they're just looking. At a home show in St. Petersburg, Fla., 80,000 visitors inspected the homes—but only two houses all together were sold at the show.

The customers are asking for more and more features. "They usually want a lot more than they can afford," grumbles a Midwestern contractor. Almost everywhere, there's a trend to "built-in" kitchens—eye-level ovens, counter-top stoves, wall refrigerators. Rooms are being made slightly larger, and either a fourth bedroom or a "family" room is being added.

One surprise: Central air conditioning, expected to be widely used as a draw, seems to have flopped. Even in hot-weather spots, like Georgia, Florida, or Texas, speculative builders say their buyers don't want it, "at current sky-high prices." It's going into custom-built houses, or those at the top of the local price ranges, but generally not into big developments.

- **Money, at a Price**—Not a single builder questioned by *BUSINESS WEEK* complained of real trouble in finding financing, although interest rates for construction loans generally have crept up about $\frac{1}{4}$ of 1% over a year ago—and almost all admit to paying some premium for mortgage commitments on VA and FHA loans. Most say the charges are running between 1% and 2%—and where there is any sizable down payment, mortgages are going at par.

Farm Program Hits Shoals

Senate maneuvering snags Administration's policy as Democrats try to delay GOP plan to get benefits to farmers before election.

Short of war, the problems of the American farmer will be the chief concern of Congress from now until Election Day. Everybody has a nostrum to cure the farmers' surplus miseries. And everybody wants to get a hearing for his own favorite cure.

- Democrats generally prescribe a return to 90% price supports on basic crops and dairy products.

- The Administration advocates a continuation of its flexible support scheme together with inauguration of a soil bank program.

This week in the Senate, the Administration was winning most of the skirmishes in its fight for the joint flexible support and soil bank program. But it appeared to be in danger of losing the battle. In three weeks of debate it has won three test votes on its flexible support program.

But there's still no end in sight to the number of tests it has yet to meet.

- **Multiplication**—Almost 100 amendments to the Administration's farm bill were pending at midweek. On Tuesday, when the Senate began considering them, 82 amendments were pending. That day, it disposed of four of them. But when the day ended, a total of 96 still remained. New amendments were coming in by the hour. In a maneuver to get more speaking time, senators were offering amendments to amendments that had amendments pending. Finally, the Senate decided to ease the jam by cutting from two hours to one hour its limit on consideration of each amendment.

Delay on the bill jeopardizes benefits that farmers could reap this year from the Administration's program. If they're to take advantage of soil bank payments for putting land into the acreage reserve, farmers need to know exactly how the program will operate before spring planting time. Sen. George Aiken (R-Vt.), who is leading the floor fight for the Administration, estimates that early passage of the bill could mean \$2-million in the farmers' pockets through soil bank payments and improved markets. "But," he warns, "if the bill isn't passed by May 1, it could mean virtually no benefits this year."

- **Partisan Strategy**—The politics of time-consuming maneuvering are pretty clear at this point. The Democrats hope to prevent soil bank payments going out to the farmers this year so that at election time they'll be able to tell them that the Administration has

held down price supports, failed to cut surpluses, and put no more purchasing power in their pockets.

The Republicans, in this event, will hold the Democrats responsible for any failure to put the soil bank program into effect. Republicans hope that at best they will neutralize the whole program as an election issue. Democrats are counting on making Agriculture Secy. Ezra Taft Benson and the flexible supports their chief domestic targets.

- **Lost Goal**—It certainly seems that Congress will pass no final farm bill by the Administration's target date of mid-April. In the Senate, major tests for Administration remain on (1) supports for dairy products, (2) a dual parity formula for determining price supports, and (3) the \$1.1-billion soil bank program. Action also has to be taken on the surplus disposal program, marketing quotas, acreage allotments, and scores of amendments that aim to gain special concessions for particular commodities. So the final version of the Senate bill is still in doubt.

Whatever the Senate does will be subject to approval by the House. House Democrats who will serve as conferees on the bill have already served notice that they expect no speedy conference action. The Administration is busy trying to switch the GOP House votes that helped produce a five-note margin there last year in favor of 90% price supports.

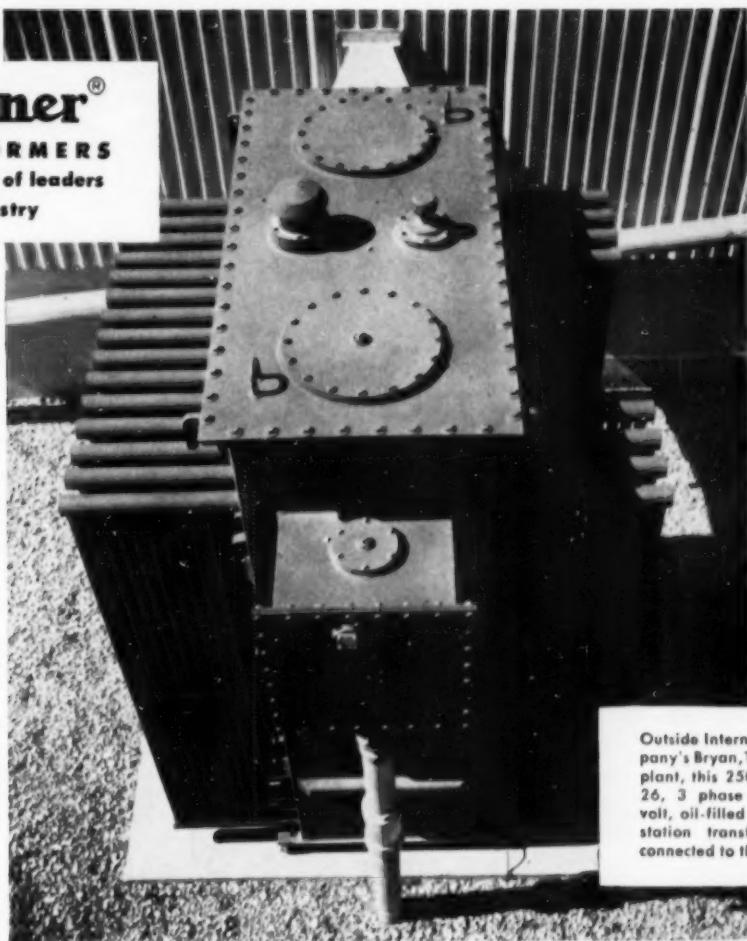
At the Senate-House conference, some of the amendments voted by the Senate giving special treatment to particular commodities will face further hurdles.

- **Concessions**—Two major ones have cropped up during the Senate debate:

- Wheat senators from Midwestern and Northwestern states pushed through the first Administration setback by voting a two-price system for wheat. Under the system, wheat used for human consumption gets 100% of parity, at \$2.38 a bu. Wheat used for feed and for export goes at the market price. This move is subject to a wheat farmers' referendum, and would not go into effect until 1957—and then only at the discretion of the Secretary of Agriculture.

- The Senate vote raising corn acreage to 51-million acres for 1956 (it was scheduled to drop to 43-million acres this year) wasn't so much of a shock for the Administration.

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BUSINESS BRIEFS

Some are growing. In the past 10 years, du Pont has spent \$1.2-billion on new plants and on updating old ones. . . . Northern Indiana Public Service Co. has a \$52-million building and modernizing program for this year and next.

. . . Some are shrinking. Louis Wolfson says he will use the corporate pruning shears again on Merritt-Chapman & Scott. Slated for speedy lopping off are Utah Radio Products Co. (BW—Feb. 18 '56, p30) and Shoup Voting Machine Corp.

Montgomery Ward is thinking "actively" of ending its 15-year moratorium on opening new retail stores, says headman John A. Barr. As of now, retail stores account for two-thirds of Ward sales; the rest are mail order.

High cost of gittin' thar: Independent Atlantic carriers are raising their freight rates by 10% on Apr. 2; steamship lines belonging to the Freight Conference will maintain present rates. . . . The Pullman Co. is cooking up a 7½% fare boost for May 1 on its parlor and sleeping cars. . . . The Illinois Central RR is asking the Illinois Commerce Commission for a 36% raise in its commuter fares, effective April 16.

Consent decree settlements of anti-trust cases (BW—Mar. 3 '56, p80) are being eyed icily by the Democrats. The House Small Business subcommittee headed by James Roosevelt (D-Calif.) will investigate this approach, favored by the Republicans. The Democrats wonder if big companies get off too easily.

Biggest five-year plan in its history has been mapped by the Port of New York Authority. During the period, the agency will spend \$600-million to improve its facilities.

Battle lines have formed at Seiberling Rubber Co. Edward Lamb, Toledo businessman, has notified SEC that he and six associates will campaign actively for seats on the Seiberling's nine-man board. Management said it was "shocked" by Lamb's announcement, and would fight back vigorously.

Spreading car rentals (BW—Feb. 25 '56, p66) sprouted another branch this week when Greyhound Corp. set up a subsidiary, Greyhound Rent-a-Car, Inc. The big bus company will start rental service of cars and trucks on June 1 in New York, Chicago, and Detroit. Other cities will be added later.



What Share Of This \$29 Billion Wardrobe Will Your Business Sell?

America will dress up to the tune of an estimated \$29.3 billion in 1960. This is a 29% increase in the nation's expenditures for clothing and related items during the present decade.

Textile and clothing manufacturers, jewelry firms and watchmakers, shoe manufacturers and hat manufacturers, as well as the nation's retailers, all have a stake in this growing national wardrobe.

While this is an expanding market, it is particularly subject to the public's whims in taste and style. It is

important that corporations have financial flexibility to increase production, to switch product emphasis, to modernize or acquire new properties.

Availability of funds to take advantage of these opportunities as they arise is a prime consideration of growth-minded executives.

The knowledge and facilities of The Bank of New York are geared to the needs of large and small corporations in today's economy. The senior officers of this Bank are readily available to discuss your banking requirements.

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THE attending doctor asked Liberty Mutual's Medical Advisor to examine the X-rays of an employee's fractured leg. The specialist's sharp glance spotted a second, obscure fracture. Without treatment of *both* injuries, the man would have been permanently disabled. He's now back on the job. The Medical Advisor system is an important part of Liberty's medical program for reducing compensation costs. More than 50 of the nation's top orthopedic surgeons serve Liberty Mutual offices across the U. S. A. Each medical advisor is prepared to review all bad accident cases in his district.



MEDICAL SPECIALISTS HELP YOU CUT COMPENSATION LOSSES. Liberty Mutual retains 53 orthopedic surgeons to check diagnosis of serious cases. These medical specialists are available to help your injured workers get the right treatment.



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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
MAR. 17, 1956



Washington's political spotlight switches to the Democrats now.

There will be more of the anti-Nixon news stories. But Pres. Eisenhower has gone just about as far as he can go in backing Nixon for a second term race and still leave any impression at all that the nominating convention at San Francisco in August will have something to say about picking a Vice-President. With this question pretty well settled, the Democratic split will move more and more into the political news.

—•—

The racial row will hurt the Democrats in November. The moderates of both the Northern and Southern wings of the party are being forced toward extreme positions. This is playing havoc with the moderation theme that Congressional leaders have been urging in an effort to avoid a wide open election-year split. And it threatens to cut party strength in the upcoming general elections.

A third party movement is in the making. Observers doubt that the warring factions can head it off at the Chicago nominating convention with any compromise on the platform and candidate.

This might be costly in the Presidential race. If the November contest should turn out to be close, the splitoff of even a few of the Southern states could tip the election to the GOP.

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Northern House and Senate seats are involved. Some Republican leaders are convinced that the Democratic split offers them a good opportunity to pick up Negro support in key Northern and Midwestern states.

The GOP argument will be that if the Democrats do retain control of Congress in November, pro-segregation Southerners will remain in charge of major legislative committees that handle racial issues. In the Senate, for example, a Democratic victory would mean that desegregation foe James Eastland (D-Miss.) would retain the chairmanship of the Judiciary Committee. This committee handles civil rights legislation and passes on appointment of federal judges. Northern Democrats fear this as a potent argument—one that can dampen their present hopes of holding Congressional control even if Eisenhower wins.

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A new "civil rights" fight may erupt in the Senate. If it does come, it will be long and bitter and will delay and even block Eisenhower's program.

The plan now being talked by anti-segregation Democrats is to launch another attack on the Senate's cloture rule. As it now stands, the rule requires a two-thirds vote to limit debate. It is this rule that has permitted Southern members to filibuster to death so-called civil rights legislation—to block a vote by prolonging debate.

Success of any such maneuver is doubtful. But it would give members with big Negro votes in their states an opportunity to "get on the record," and thus reply to attacks made on them back home.

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Note the timing of the blowup—the issuing of the Southern "manifesto" against the Supreme Court desegregation decisions. The issue had smoldered for months, with the more moderate members of the Dixie delegation trying to avoid anything like a party-splitting showdown. Until Eisenhower made his second term announcement, Democrats held pretty

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
MAR. 17, 1956

high hopes of a White House comeback in the fall. With these hopes chilled, the lid flew off.

The political result is that such senators as George and Russell of Georgia, Hill and Sparkman of Alabama, and Fulbright of Arkansas, who have worked to avoid a Southern split in the past, were forced to line up with the more extreme Southerners. At the same time, Northern Democrats were forced farther in the other direction. That's why political observers now feel a compromise at the Democratic convention in Chicago probably will prove impossible, and a third party move will get going.

—●—

Eisenhower will stick to his stand on desegregation, despite efforts to sway him to a more aggressive position.

His attitude is this: It will take time for the Southern states to comply with the court doctrine. Eisenhower is unwilling to set any time limit. He doesn't think in terms of coercion—of use of force. He relies on common sense to bring about a gradual end to the segregation practices of the South.

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Eisenhower will win his farm bill fight, although the victory may be too late for farmers to benefit much from the soil bank and conservation plans this year. It may be fall before the program begins to operate.

It will be weeks before the Democrats give up the 90% fight. The successful stand of the Administration against a return to high, rigid price props came in the Senate. The bill is an amended version of the return to 90% of parity voted by the House last year. It will have to go to conference for adjustment of differences. And an effort will be made in the House for a compromise—a return to 90% for one year to allow time for the soil bank and conservation programs to cut production. Odds are against it, but the fight can delay the legislation into late April or even May.

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Other Cabinet changes before election time are being rumored.

McKay's resignation from Interior is no surprise. It was something of a surprise, though, that he stepped into the race against Sen. Wayne Morse in Oregon. McKay denied any such intention to friends on the day that Eisenhower announced he would run again. The change of mind is attributed to White House pressure—from Eisenhower, himself.

Sinclair Weeks' name figures in the speculation. The Commerce Secretary took the post in 1953 on a short-term basis but has stayed on. Democrats call him the "front" for big business in the Administration, and union labor has resented his intervention in Labor Dept. programs and plans.

Benson isn't likely to step out as Agriculture Secretary, although stories that the GOP wants him ditched keep popping up.

There's talk that Wilson will go. He has not always been astute in his comments. But White House insiders discount these rumors. They say that if Wilson quits before the end of the present Eisenhower term, it will be on his own initiative and not the result of any push. Wilson himself says he expects to be on the job during Eisenhower's second term.

—●—

Washington's appraisal of the business outlook, with the first quarter nearly gone, is bullish (page 27). Eisenhower advisers see nothing in the picture that will hand the Democrats an election issue before November.

This piece of candy demonstrates "more work per typist"

Why? It weighs about two ounces. Which simply means that it takes less weight than this for her to press down one key on the new Royal Electric.

It only takes three ounces to press the carriage return key.

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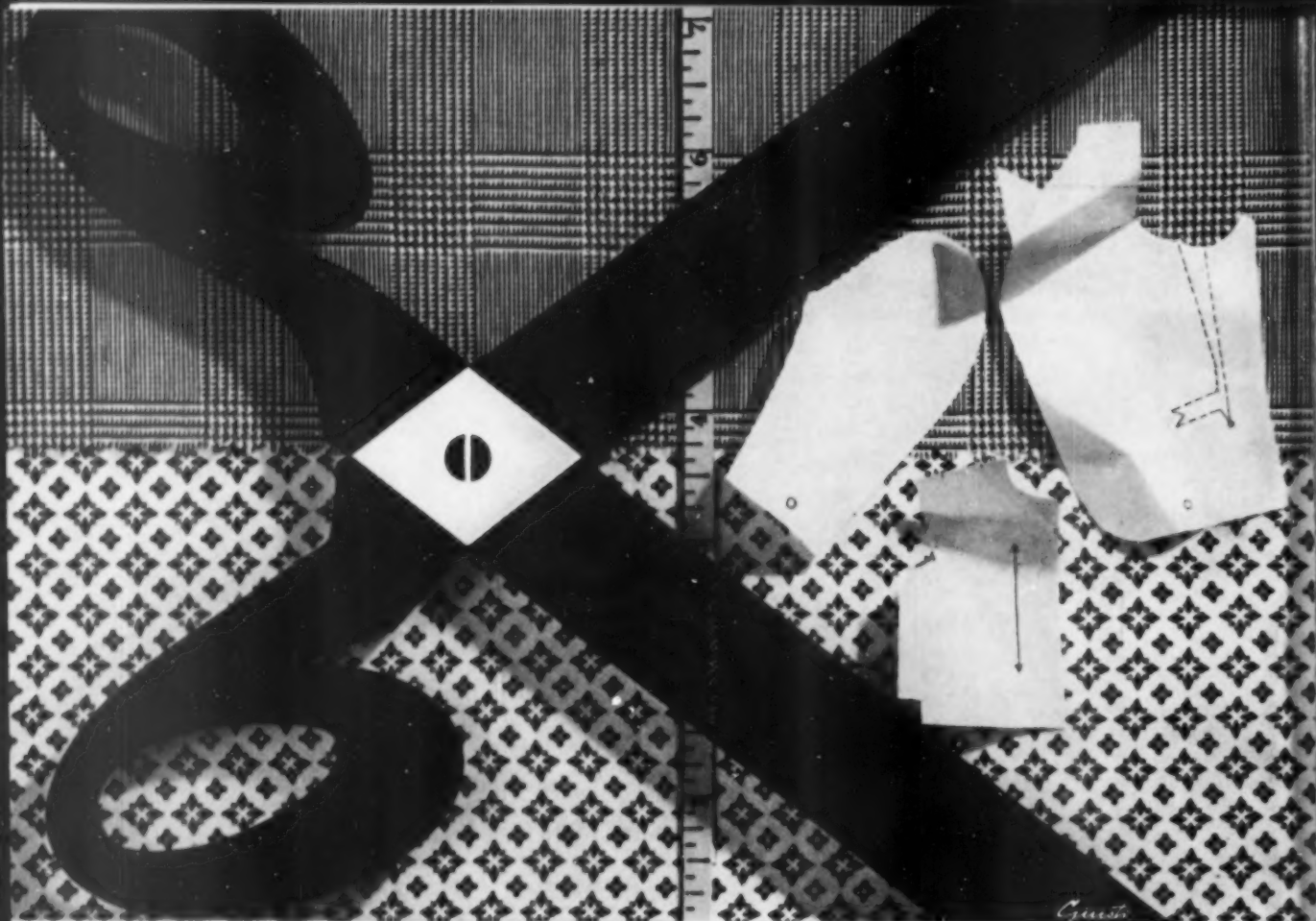
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Casual dress key to clothing's climb

Bank loans help industry cash in on informality and new fabrics

America's wardrobe has undergone startling changes in the last 25 years. Mother, who used to have three or four types of clothing, now has a couple of dozen. Her wrinkleproof frocks and filmy nightgowns hang next to a ski suit and dungarees... and she might easily own three bathing suits. Father boasts of colorful sport clothes galore (but goes for the new dark tones in suits). And Baby's layette fills a trunk.

Mainly responsible for our larger, more varied wardrobes is the surge to the suburbs, supported by record incomes. New fabrics have helped. Cotton, wool, and silk have joined synthetic fibers to produce fabrics that look smarter, wear longer, and need little care. We can now be "casual" and "dressy" at the same time,

and spend \$20 billion a year to do it—150% more than in 1940.

Apparel's vitality would have been impossible without bank credit. Because the industry depends on style and weather, bankers serving it must know the business intimately and live closely with their accounts. For many years, apparel men have found such bankers at The First National City Bank of New York... both at Head Office and in fully staffed Branches in the heart of New York City's world-famous garment district.

First National City extends credit—usually for a year or less—to cutters,

converters, and mill operators to help them prepare for their "season." Millmen get longer-term loans for plant expansion. The Bank also lends money to factors and finance companies and provides valuable statistics to the apparel trade.

Whatever your business, there are bankers at First National City who understand it. This understanding is the result of 144 years of experience serving American industry and is backed by world-wide facilities and resources of about \$7 billion. The next time a financing question arises, consult a First National City banker.

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Rails Try a New Diet for Diesels

- A new system feeds the locomotives two grades of fuel—the cheapest one fuels them for hot, hard work.
- By cutting costs at this critical point, dual fuel system promises millions in savings for the roads.
- Besides getting the roads off hook of rising prices, it could ease their fear of short fuel supplies.

To the treasurers of U. S. railroads, it looks like the promise of a dream come true: With a flick of the wrist, plus some expensive preparatory work, their engineers might be able to cut a sizable chunk from their massive locomotive fuel bills. That's the promise given by a new fuel system that four major railroads—led by Southern Pacific—are now testing on their heavy diesel freight locomotives.

The new system enables the engines to burn a blend of residual oil—a treacly, 6¢ a gallon product from the bottom of the oil refineries' barrel—instead of the richer, 9¢ to 11¢ a gallon fuel that normally keeps them going.

• **Critical Point**—The flick of the wrist takes place just at the moment when the railroads' fuel costs normally begin to soar: when the engineers start putting on speed and the diesels begin running hard and hot. Right then, under the new fuel system, a diesel's oil feed shifts from a tank filled with normal grade fuel to one containing the cheap, residual oil blend. While the locomotive rattles along at the higher speed it keeps consuming the cheap fuel; when it slows down again it switches to the better fuel. The switch is automatic and takes place when the engineer pushes the throttle past position 4—half-way mark on a diesel locomotive's throttle.

• **\$3,000 Trick**—The device that turns this trick is called a Nemec Dual Fuel System. It's built by Nemec Combustion Engineers, Whittier, Calif., and costs about \$3,000.

Southern Pacific is in the lead among the four railroads that have started rolling down this new track that could lead to big savings. It started testing a dual fuel system in two of its locomotives a year ago. Now it's converting 50 diesels on its northern division to the system. The other roads have taken their cue. The Milwaukee Road has been running tests on two of its diesels since last summer. Great Northern started tests a little later. And this

week, New York Central began a testing program at its Harmon (N.Y.) yards.

The four roads hope that the new system will help them cut their diesel freight locomotives' fuel bills by 14¢ to 2¢ a gallon. For most railroads fuel alone accounts for about 52% of locomotive operating expense. So this is one of the most fruitful areas for cost-cutting.

• **Eager Eyes**—Other railroads are sitting on the sidelines still. But they are watching closely the tests that the four experimenters are making. Diesel engine manufacturers are keeping close tabs on the tests, too. But so far, none has any definite plans for producing diesels with dual fuel systems as original equipment.

Most of the locomotives converted to dual fuel are General Motors Electromotive diesels, but GM says the tests are strictly the railroads' baby. If its customers want a dual fuel system added, they must do it in their own shops.

• **New Oil Pattern**—If the tests are successful, it's likely that U. S. railroads will make a major shift in their fuel purchases. And such a shift would ease the pressure on the nation's supplies of diesel and high-grade fuel oils.

Railroads are one of the heaviest users of diesel fuels—one class of the "middle distillate group," in the refiners' jargon. They burned 34-billion gallons, more than half of it in their freight operations, in 1955. But now buses, trucks, farm machinery, and construction equipment are using more and more. The home heating market is taking larger quantities each winter. Jet aircraft, which are fueled with kerosene and distillates in the diesel fuel range, are eating up enormous quantities. The government, determined to avoid a shortage of jet fuels in a national emergency, has warned the railroads that their diesel fuel supply is in danger.

(On the horizon is another nightmare

for the railroad's diesel men, the gas turbine automobile, which would use fuel from much the same part of the refiners' barrel as jet airplanes.)

• **Second Hook**—Along with this steeply rising demand have come rising prices. In 1936, railroads paid 4¢ a gallon for their middle distillate diesel fuel. Today, they pay up to 14¢ a gallon. They have managed to get some price relief by using slightly lower grades of fuel, but in 1955 they still paid an average of 9.4¢ a gallon.

For several years, railroads have been trying to get off the two hooks of rising prices and threats to their supplies.

• **One Way Out**—Union Pacific has sought a way out by using gas turbine locomotives that burn unblended residual oil for some of its tough mountain runs. It has had 25 of these locomotives running since 1952, and last December it ordered 25 newer, larger units. But gas turbines have inherently high fuel consumption, are uneconomical when they're run at low power settings, and most U. S. railroads see them as no solution to their problems.

That's why the search has gone on for a method of burning residual oil in present diesel locomotives. It's no easy trick to find an acceptable method, because residual oil is the refineries' ugly duckling. It is what's left in the refining process after all other petroleum products have been boiled off the crude. All the impurities stay with the residual oil. Its sulphur and vanadium salt content is particularly damaging to the metal parts of engines.

When a diesel is running hot enough, the impurities in the fuel don't condense in the exhaust system, and the high combustion temperatures and pressure in the cylinders burn out the deposits as fast as they form on the fuel injection nozzles. In a locomotive, which does not always run at high load, a few minutes of idling on residual fuel will lay down enough deposits to require a major overhaul.

Railroads find residual oil harder to handle than distillate fuel because of its high viscosity. At temperatures below 100F it flows like winter molasses, and at near freezing temperatures, railroad men say you have to use a shovel to move it.

• **Two Ways Around**—Despite these drawbacks, Southern Pacific and Nemec Combustion Engineers have proved that residual oil can be used in loco-

Rockwell Report



by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company

PERHAPS IN OTHER COMPANIES, too, there are periodic discussions around the recurring question: "Does the good we get out of conventions and trade shows justify the high and rising cost of participating to the extent we do?"

We believe the answer to that question for us depends on *how* we participate. The considerable cost of sending numbers of high-priced men to such affairs can be largely a waste—without careful pre-planning in terms of well-defined sales objectives.

Well in advance of important conventions or trade shows, we ask regional and district men what customers or prospects from their areas plan to attend. We also ask for a briefing on specific projects under consideration with each customer or prospect.

Each of our men attending is assigned to contact certain customers and prospects, and is filled-in on the necessary background information regarding specific sales problems. In addition to the sales personnel directly concerned, at least one of our top officials also attends.

The result is that we are usually able to see every man it is important for us to see, often including men unavailable to salesmen in the normal course of business. And we see them under ideal conditions in which we are able to get their undivided attention and to discuss things which we *know* are of strong current interest.

We also utilize such gatherings by holding sales meetings with our field men who are there. Pre-planned on that basis, a convention or trade show is a good sales investment.

* * *

The recent purchase of the 84-year-old L.F.M. Company is our largest acquisition in a number of years. Plants at Atchison, Kansas and St. Joseph, Missouri provide close to 500,000 feet of additional production facilities, and plans for further expansion at Atchison have been approved. Acquisition of L.F.M. (now our L.F.M. Division) makes available to us some of the largest steel foundry and machine shop facilities west of the Mississippi.

* * *

Most of our Delta Power Tool dealers have made a practice of offering customers credit terms of various kinds. Now, however, we have instituted a uniform nationwide Delta Budget Plan. For our dealers, advantages of the Delta Budget Plan are: less paper work, and attractive, nationally-advertised credit terms (as low as 10% down, with as long as 24 months to pay). For customers: quick credit approval, immediate possession of purchased tools.

* * *

Construction is underway on our new plant at Porterville, California. This plant will be used for manufacturing and servicing our water, gas, and gasoline meters and valves, and also for warehousing of Delta Power Tools, for western markets. This plant, like the one being built at Russellville, Kentucky, is scheduled to go into operation during 1956. We have also purchased a new air-conditioned factory at Statesboro, Georgia, which is being made ready to produce a variety of valve and meter products.

One of a series of informal reports on the operations and growth of the

ROCKWELL MANUFACTURING COMPANY
PITTSBURGH 8, PA.

for its customers, suppliers, employees, stockholders and other friends



tives. Nemec's dual fuel system turns the trick by satisfying a diesel locomotive's critical fuel requirements at low speed, by feeding it high-grade fuel. But it switches to residual oil fuel at high speed—the period of its highest consumption.

The system gets around the problem of viscosity by heating the residual oil with water from the engine's cooling system. A heat exchanger in the fuel filtering system brings the low-grade oil to between 160F and 175F. At that temperature it will flow through the injector pumps and nozzles without clogging.

A diesel locomotive consumes only about 3 gal. an hour while idling, compared to nearly 100 gal. an hour when working under full load. So greatest chance for fuel economy comes when it's working hardest—and that's just when low-grade fuel can be used. On the 275-mile round trip between Roseville, Calif., and Sparks, Nev., an especially steep climb over the Sierra Nevada Range, a Southern Pacific diesel unit eats up about 600 gal. of fuel on each round trip. Ordinarily, the whole 600 gal. is the more costly light distillate fuel, but Southern Pacific's dual-fuel locomotives use 560 gal. of residual blends and only 40 gal. of standard fuel.

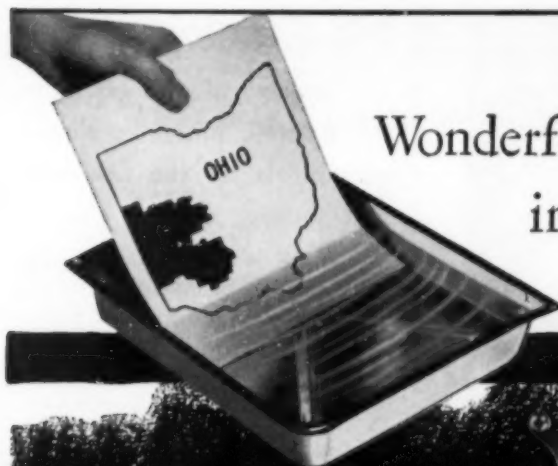
• **\$2-Million Saving**—New York Central expects that it could use a dual fuel system on up to 80% of its freight service.

Last year, the Central's freight operations on the Central consumed 131,800,000 gal. of diesel fuel. So conversion to a fuel that is 2¢ cheaper offers it a potential saving of \$2-million a year.

Use of the dual fuel system probably wouldn't put all the railroads' savings straight into their treasuries. For example, the Milwaukee Road's experimental dual fuel engine, running for about 6 months has had to have an oil change at 19,000 mile intervals due to the high sulphur content of the residual fuel, which acidifies the lubricating oil. Ordinarily, lubricating oil is not changed in diesels—fresh lubricating oil is added to maintain the oil level only.

• **Refiners' Part**—Oil companies generally believe residuals are a practical fuel for the railroads. So far, only a few companies are supplying the special blends required. Union Oil Co. supplies the fuel for Southern Pacific's small fleet of converted diesels at a cost of between 15% and 20% less than regular diesel fuels.

In the East, Esso is working with New York Central. They plan to try three types of fuels—containing 75%, 50% and 25% Bunker C residual oil with the balance distillates—and expect to wind up with a fuel that costs 1¢ to 2¢ a gal. less than the least expensive grades of cracked distillate fuels. **END**



Wonderful things are developing
in West Central Ohio

For a complete
picture...
get a D P & L
Annual Report

West Central Ohio comes sharply into focus when seen through the "lens" of The Dayton Power and Light Company's 1955 annual report. It's a picture of a million people who enjoy good incomes—who work in healthily diversified industries in cities and towns—and who live on 16,000 farms. These fortunate people live well. And naturally, their individual use of our services is above the national average.

This report gives you a picture of The Dayton Power and Light Company's sound growth, matching that of the area. May we send you a copy? Just write—



THE DAYTON POWER AND LIGHT COMPANY
BALANCE SHEET

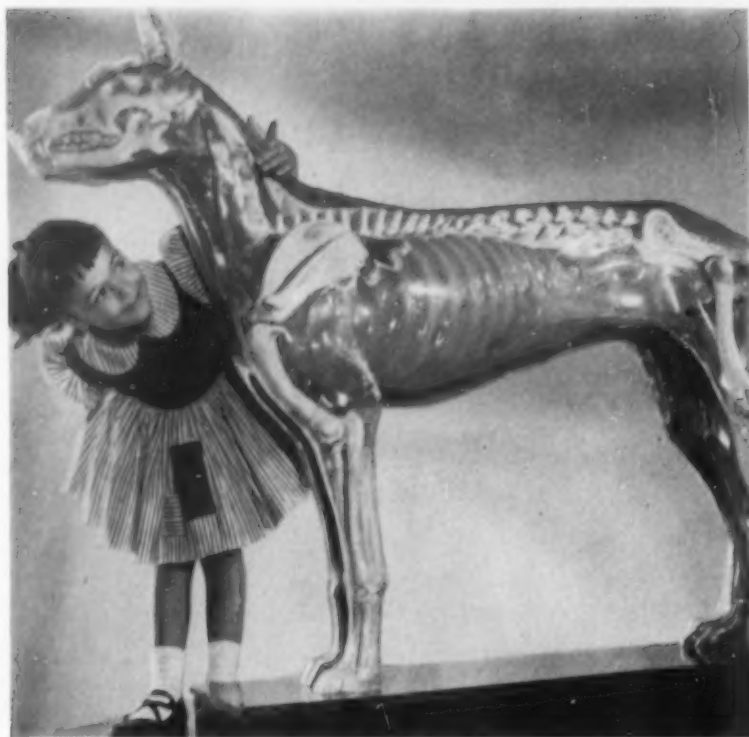
	December 31	
ASSETS	1955	1954
Property and plant.....	\$201,738,000	\$193,188,000
Current assets	20,257,000	22,739,000
Other assets	576,000	570,000
	<u>\$222,571,000</u>	<u>\$216,497,000</u>
LIABILITIES		
Capitalization	\$169,947,000	\$166,397,000
Current liabilities	16,278,000	15,161,000
Reserves	36,346,000	34,939,000
	<u>\$222,571,000</u>	<u>\$216,497,000</u>
RESULTS OF OPERATIONS		
	1955	1954
REVENUE	\$ 68,327,000	\$ 61,547,000
EXPENSES	56,392,000*	50,915,000
Gross income	\$ 11,935,000	\$ 10,632,000
INCOME DEDUCTIONS	2,355,000	2,193,000
	<u>\$ 9,580,000</u>	<u>\$ 8,439,000</u>
PREFERRED DIVIDENDS	949,000	949,000
Earnings on common stock	\$ 8,631,000	\$ 7,490,000
Number of common shares out- standing at December 31	2,619,256	2,600,059
Earnings per common share outstanding	<u>\$3.30*</u>	<u>\$2.88</u>

* Includes taxes of \$14,000,000—equivalent to \$5.43 per share of common stock

THE DAYTON POWER AND LIGHT COMPANY

25 North Main Street • Dayton 1, Ohio





The Case of the Talking Dog . . .

► Modeled after a Great Dane and named "Vesta," this transparent plastic dog is complete in every detail . . . skeleton, teeth, muscular system, internal organs, and an intricate mechanical voice. Designed for the Gaines Dog Research Center by a German Museum to promote better care and understanding of dogs, Vesta has toured the United States in a Mayflower Moving Van giving dramatic talks about herself. Crated she weighs 1,440 pounds.

Whether it's a delicate mechanical display, your fine household furniture, a company exhibit or a whole fair, your goods will receive the same expert handling and the same gentle care with Mayflower. The next time you have a long-distance move, call your local Mayflower agent. It's the safe, easy way to move long distance, anytime, anywhere!

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FURNITURE MOVERS

America's Finest Long-Distance Moving Service

No Comfort

Makers of resilient foam are on their toes in a three-way battle for the rich seat and padding market.

A three-way pillowfight is shaping up among the producers of resilient foams.

Vinyl and methane, the two newcomers to the seat and padding field, are just getting into production volume that will challenge the markets of foam latex. Most industry predictions foresee that the two plastic foams—vinyl and urethane—will seize a large part of the resilient foams' expanding market. This market may rise to a total of 500-million lb. by 1960.

• **Upstarts Grow**—Chemical Week, a McGraw-Hill publication, predicts that foam rubber will still hold the lead in volume of production with an annual volume of 300-million lb. by then. But the two upstart foams have a big future, Chemical Week says. By 1960, urethane foam's annual volume should be about 100-million lb., and vinyl foam's about 125-million lb.

These estimates don't take into account the possibility of major technical breakthroughs in foam production methods. They're projections based on production figures of the last eight years. In 1947, some 18-million lb. of foam latex were made. Last year's production was between 225-million lb. and 240-million lb. The two plastic foams' volumes were: vinyl, between 4-million lb. and 5-million lb.; urethane, between 3-million lb. and 4-million lb.

• **Boosters**—But already it seems that urethane foam production is likely to get a big boost from increased production of isocyanates—one of their components. Du Pont (BW-Feb.25'56, p137) and Mobay, a subsidiary of Monsanto Chemical Co., have just completed the first two U.S. isocyanate plants.

It seems, too, that vinyl foam production may jump through development of a new vinyl resin—a raw material for vinyl foam. Foam and resin producers are working hard to develop this new resin.

Many hotels and some railroads reject foam rubber because it is inflammable; the two plastic foams won't support combustion. A board foot (a piece 1 in. thick, 1 ft. wide, 1 ft. long) of foam rubber costs 52¢; in equal resiliency, vinyl foam costs 48¢ and urethane foam, 45¢. The weights of these grades of foam are: rubber, 8 lb. a cu. ft.; vinyl, 6 lb. a cu. ft., and urethane, 3 lb. a cu. ft. **END**

How Music in a N.J. Plant Improved Production and Morale in 5 Ways

ONE OF THE revolutionary discoveries made during World War II was the stimulating effect of music on the productivity and morale of office and factory workers. Not just *any* music, however—but functional background music which was *scientifically planned*. This discovery led to the tremendous expansion of the use of MUZAK® in offices and plants throughout America!

Today "Music by MUZAK" is helping to increase production and improve morale in thousands of businesses, large and small. These include 13 of the 14 companies certified by the American Institute of Management as "Best Managed," after a survey of over 4000 leading concerns; 11 of the 12 *best known* companies; 40 of the 70 largest insurance companies; 70 of the 100 biggest commercial banks.

THIS N. J. FIRM, FOR EXAMPLE:

The Personnel Director of a well-known television manufacturer (name on request) writes:

"Our connection with MUZAK dates from the war years, when 3 of our plants in Passaic were producing radar equipment. Heavy demands were made on our personnel. They were subjected to considerable strain and fatigue. This condition (harmful to production schedules) prompted us to install MUZAK—in an effort to bolster morale and provide employees with a "lift" which would induce them to better performance.

"The experiment proved successful. In 1948 MUZAK was installed in our Clifton plant. We had come to the conclusion that the benefits of MUZAK were as important in peacetime as in wartime.

"We conducted a survey among the employees of our Clifton plant to determine MUZAK's functional effectiveness. The survey disclosed many beneficial effects experienced by workers; even more interesting were comments of supervisory personnel."

Survey Shows 5-Way Improvement

After an objective analysis of this survey, here is what top management and supervisors reported:

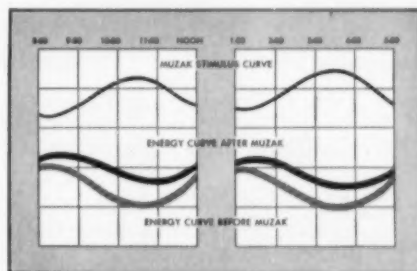
1. **IMPROVEMENT OF WORKER PRODUCTIVITY.** 26.4% showed an increase in productivity varying from 5% to 10%.
2. **IMPROVEMENT OF EMPLOYEE ATTITUDE TOWARD JOBS.**
3. **IMPROVEMENT OF INTER-EMPLOYEE RELATIONSHIPS.** 96.2% improved considerably their relationship with fellow workers.
4. **DECREASE IN TIREDNESS.**
5. **DECREASE IN NON-ESSENTIAL CONVERSATION.**

More than 90% of the employees surveyed testified that MUZAK helped them in their work. Among their comments: "Makes you feel like working"... "Relieves fatigue. Tends to break monotony of work"... "Seems to pass time away faster and pleasantly."

Why Muzak Accomplishes These Results

MUZAK is different from other music. It is selected, recorded, and programmed to accomplish specific results like those reported above.

IT IS A SPECIAL KIND OF MUSIC—Every selection in MUZAK's exclusive 10 million dollar library has been especially orchestrated



How MUZAK Relieves Worker Fatigue. As workers' energy begins its normal sag during mid-morning and mid-afternoon (bottom curve), the programming of MUZAK selections is varied scientifically (top curve) to give workers' energy the greatest "lift" when it is most needed (middle curve).

and recorded only for MUZAK, the only such collection of music available anywhere.

IT IS SCIENTIFICALLY PROGRAMMED—based upon the time of day, place, and type of employee-activity. There is a different kind of MUZAK Program for office workers, factory workers, and for customers in hotels, restaurants, banks, and other public places. Each program is carefully planned in accordance with the psychological and physiological effects of music on people, as determined by 20 years of on-the-job experience, plus continuous scientific research studies.

IT IS HIGH FIDELITY—LOW VOLUME. MUZAK pioneered in high fidelity in order to develop the type of music that could "cut through" the noise of busy places—yet remain background music, without being distractingly loud.

IT IS TRANSMITTED AUTOMATICALLY from Muzak studios located in all principal cities. No need to assign personnel to take

care of the system, to purchase and store records or tapes, to determine playing schedules, to service and maintain equipment. A flick of a switch brings you MUZAK.

What Can Muzak Do for Your Company?

MUZAK is recognized as a basic tool of modern management—a service which, among other advantages, increases production, improves employee morale, and cuts down labor turnover and absenteeism.

In most sections of the U.S. and Canada, a 60-day trial installation in your present office or plant facilities may be arranged. And MUZAK experts will be glad to advise you on including it in the blueprints of your new building. If you would like more information on what it can do for your business, mail the coupon.

OFFICES find that MUZAK reduces "noise fatigue," cuts down clerical errors, lessens daydreaming, bickering, restlessness. For a Tennessee cement company it increased production 20% in the drafting department alone.

FACTORIES AND PLANTS report that MUZAK reduces turnover and absenteeism, lessens boredom, stimulates concentration and job interest. It increased production by 16.6% for a large laundry.

BANKS are providing MUZAK for both customers and employees. Gives bank a friendly, cheerful, inviting atmosphere. Auditing department of a Kansas bank found that it reduced clerical errors by 11%.

HOTELS AND RESTAURANTS say that MUZAK creates a friendly atmosphere that brings customers back. A dining room never seems "empty," and waiting periods never seem so long, with MUZAK in the air.

STORES AND SHOPS report that MUZAK makes sales clerks friendlier, more cheerful; promotes impulse buying; encourages customers to linger longer, buy more.

*MUZAK—Reg. U.S. Pat. Off.



MUZAK CORPORATION, Dept. 13
229 Fourth Avenue, New York 3, N. Y.

Please send me, without obligation, full information on what MUZAK can do for my business.

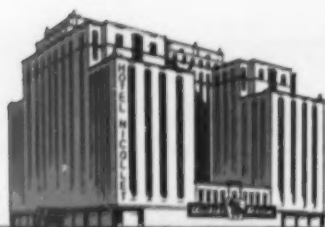
Name.....Position.....

Company.....

Type of Business.....No. of Employees.....

Street.....

City & Zone.....State.....



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MINNEAPOLIS

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HOTEL**

Albert Pick Hotels proudly announce the acquisition of the 600-room Hotel Nicollet, which has graciously served northwestern travelers and conventions for over a generation. The very finest, most modern air-conditioned facilities, plus thoughtful, personalized service await you here, as in all 23 Albert Pick Hotels, located in 21 major cities.

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Cleveland, O.	Fountain Square
Columbus, O.	Carter
Dayton, O.	Fort Hayes
Detroit, Mich.	Miami
Evansville, Ind.	Fort Shelby
Flint, Mich.	Georgian
Indianapolis, Ind.	Durant
Minneapolis, Minn.	Antlers
Pittsburgh, Pa.	Nicollet
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**Air-Conditioned Rooms
No Charge for Children**

In Production

• • •

Strong Preference for Engineering, Science Shown by Student Group

The call for more engineers and scientists may be answered by the next generation of college students, according to a survey of 5,078 finalists in the National Merit Scholarship competition. Results show that 56% of the boys and 16% of the girls intend to become engineers or scientists.

About 10% of the finalists said they wanted to go into medicine or health fields. Among male entrants, business and law tied for third place in career aspirations—both were picked by 8% of the group. Only 4% of the boys want to specialize in arts and letters.

• • •

TVA Is Conducting Tests On Reversible Pump-Turbine

Tennessee Valley Authority is conducting tests on what it says is the largest reversible pump-turbine in the world. The dual purpose turbine is installed at TVA's Hiwassee Dam in western North Carolina.

During peak loads, water flows through the dam to the turbine for the purpose of generating electricity. The turbine-generator has a rated capacity of 59,500-kw. But during periods of low electricity usage, the rotation of the machine is reversed—converting it to a 102,000-hp. motor that is used to pump water back through the dam into the reservoir. As a pump, the machine is capable of returning 3,000 cu. ft. of water per second to the lake.

• • •

Youngstown Sheet & Tube Plans \$250-Million Expansion

More steel: Youngstown Sheet & Tube Co. will lay out \$250-million to boost its present steelmaking capacity 1-million tons over the present 5,750,000 tons of ingots.

The program, to be completed within two years, will step up output of present open-hearth furnaces and increase its steel finishing operations in the Chicago and Youngstown districts. A seamless tube mill and tin mill are now under construction at the company's Indiana Harbor works.

• • •

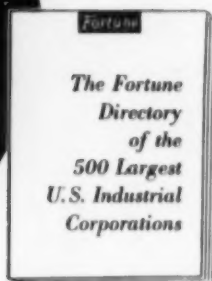
TV Keeps Eye on Air Traffic At Runways Mile From Airport

A closed circuit television system has been installed at Alameda Naval Air Station, Calif., to get a close look at the approach and ground traffic on jet aircraft runways that terminate more than a mile away from the airport control tower.

Three remote-controlled cameras can spot runway traffic, approaching aircraft, and vehicular traffic on a road near the terminus

of
America's 500
Largest Companies

94% use
DITTO



FORTUNE MAGAZINE recently published a list of the 500 largest U. S. Industrial Corporations. Of these 469 (94%) use DITTO Duplicating equipment. These DITTO Installations

represent millions of dollars saved in all phases of paperwork including such routines as order-billing, production, payroll and purchasing.

*How DITTO Saves Time and Money for Industrial Leaders!

1. Military Aircraft manufacturer saves \$50,000 annually through reduction of 22 clerical personnel.
2. Automatic Machine manufacturer saves 400% in time, speeds production.
3. Truck and Hoist manufacturer saves \$21,000 in clerical costs annually.
4. Commercial Aircraft manufacturer saves 11 to 18 days in getting orders into shop.
5. Refrigerator manufacturer saves \$15,800 in office salaries annually.
6. Railroad Car manufacturer handles increased production with 24 less employees.
7. Industrial Truck manufacturer saves \$25,000 annually in order writing alone.
8. Optical Instrument manufacturer speeds handling of purchase orders with three less clerks.

* Send for complete case histories telling how these savings are made.

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POPULAR DRUG PRODUCTS PACKAGED BY J. L. CLARK

In the drug and cosmetic field, *fine packaging* has become indispensable to successful merchandising. That is why so many leading manufacturers who require lithographed metal containers with eye-catching sales appeal have come to J. L. Clark Manufacturing Co. Through distinctive styling, superb lithography, and rigid uniformity of construction, these packages reflect the quality and integrity of the product enclosed within. In addition, they give complete contents protection and assure quick and easy dispensing. If you have need for a new or improved package or lithographed metal specialty item, write us at any of the three offices shown below. Remember: our 51 years' packaging experience is yours for the asking



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of one of the main runways. Viewing screens and camera controls in the tower give traffic control personnel the equivalent of another set of eyes over a mile away.

The TV system is the first designed to handle airport traffic problems, which have mounted with the increased size of airports and the higher speeds of planes. During pre-dawn to dusk hours, the television system gives tower men more positive visual contact with aircraft in the landing approach pattern and on the ground than they get from ground radar installations that throw an outline map of the field on a radar screen.

Each TV camera turns through 350 deg. and tilts up to a 45-deg. angle, so the operator can follow the moving traffic or search a wide area. Three-turret lenses provide telephoto or wide angle views at the option of the operator in the control tower.

• • •

Production Briefs

Bronze walls will cover the exterior of the Seagram Building, a skyscraper now being erected on New York City's Park Ave. It will be the first skyscraper to have such walls. Bronze alloy sheathing will cover 153,000 sq. ft. of the building's 275,000 sq. ft. of exterior; the rest will be glass. Over 3.2-million-lb. of alloy will be used.

Koppers Co. of Pittsburgh has signed a contract with Bethlehem Steel Corp. to expand Bethlehem's facilities at Sparrows Point, Md. Bethlehem, the steel industry's second largest company, recently announced a \$500-million expansion program.

McDonnell Aircraft Corp. has received a \$55-million order for its new version of the Demon Fighter for the Navy. Six of the new all-weather fighters (F3H-2N), powered by Allison J-71 engines, were delivered for fleet duty last week.

The day of the gold-plated Cadillac is coming closer. Kaiser Aluminum & Chemical Corp. announced this week a new method of imparting sunfast golden tones, from pale straw to deep gold-bronze, to aluminum sheet. The patented process involves the cladding of a standard alloy sheet with a special alloy surface. When anodized, the integral surface assumes the color of gold. Hues can be varied by changing anodizing conditions.



Tippecanoe County Fairgrounds Association gets steady income through rental of this permanent, 60' x 100' pole building.

Located at Lafayette, Indiana, handsome PENTA-treated building is booked solidly by equipment dealers and other displayers.

TWO BUILDINGS FOR THE REGULAR COST OF ONE



The Schwab Safe Company, also in Lafayette, stores valuable inventory of master patterns in this 26' x 60' clear-span pole building.

POLES make it possible . . . PENTA makes it practical

Sturdy pole construction gives industry two versatile buildings for the cost of one conventional structure. Fully finished with roofing and siding, pole buildings erect at an average cost of only about \$1.25 a square foot. They're ideal for working or storage space . . . and compare favorably with double-cost conventional construction on strength, durability and appearance.

Poles set directly into the ground form foundation, studding, rafter and roof support. To ensure lasting soundness, they are best treated with effective

PENTA® preservative. Clean, almost odorless PENTA protects wood against the costly ravages of rot and termites. Heavy users of poles and other lumber . . . the railroads, the utilities . . . are regular users of PENTA-protected wood.

Plans for pole buildings of all sizes and types are widely available. So is supply of *PENTACHLOROPHENOL-treated poles. For further information about where a pole building could fit profitably into your business, please return coupon to THE DOW CHEMICAL COMPANY, Midland, Michigan.

THE DOW CHEMICAL COMPANY
Dept. FE 971J, Midland, Michigan

☐ Send me information on PENTA-treated pole buildings for this use:

☐ Send me the name of my nearest PENTA-treated pole supplier.

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Amazing Minnesota... by Paul

THE NATION'S SMARTEST PEOPLE??

MINNESOTA'S GREATEST RESOURCE IS THE INTELLIGENCE OF ITS PEOPLE. ONLY 1.4 PERCENT OF MINNESOTANS WERE REJECTED BY SELECTIVE SERVICE QUALIFICATION TESTS. U.S. AVERAGE OF REJECTIONS WAS ALMOST 14.5 PERCENT.

150 MILLION FEET OF PINE LOGS!

IT TOOK ENGINES, HORSES, 200 MEN AND TWO STEAMBOATS SIX WEEKS IN 1886 TO BREAK MINNESOTA'S GREATEST LOG JAM. 150 MILLION FEET OF PINE LOGS IN THE ST. CROIX RIVER. CHRISTMAS TREES, PAPER AND PULPWOOD REMAIN MAJOR MINNESOTA PRODUCTS.

It's fun to WORK and play in MINNESOTA

ACHOO! SNEEZE FREE!

THE HAY FEVER CLUB OF AMERICA HAS HAD ITS HEADQUARTERS IN DULUTH FOR OVER THIRTY YEARS. SO POPULAR IS THIS POLLEN-FREE NORTHERN VACATIONLAND THAT OUR VISITORS RETURN YEAR AFTER YEAR.

WE DROP OUR HANKIES HERE

IDEAL PLANT LOCATIONS AND BUILDINGS NOW AVAILABLE

WRITE: MINNESOTA DEPT. OF BUSINESS DEVELOPMENT, ROOM 74, STATE CAPITOL, ST. PAUL 1, MINNESOTA



Refrigeration

Installed in Huge Brewery in Montreal



Evaporative condenser handling 330 tons of refrigeration



Three of four compressors using 1800 horsepower

Dow Brewery, established in 1790, now has a yearly output of over 1½ million barrels. Frick refrigerating equipment, including compressors, condensers, brine coolers, and carbon-dioxide liquefying system, was selected for an important expansion modernization program. Installation by J. H. Lock & Sons, Ltd., Frick Distributors in Toronto.

For the utmost dependability—whether on air conditioning, ice making, quick freezing, or other refrigerating work—specify Frick equipment.



NEW PRODUCTS



PUNCH CARD keeps track of operations in batching cement components with . . .

Electronic Mixer

Helco-matic Batchmaster puts electronics' speed and accuracy to work in delicate task of blending materials.

An electronic control system's speed and accuracy is wedded to versatile weighing equipment in a new batching machine produced by Heltzel Steel Form & Iron Co., Warren, Ohio. The machine, called a Helco-matic Batchmaster, automatically selects and weighs precise amounts of any number of bulk materials.

The new unit can be applied in batching chemicals, fertilizers, grains, and feeds, but it's particularly important in the cement industry. In that field, accurate batching and easy record-keeping are essential to produce concrete that meets builders' specifications.

• **Versatile**—Standard punch cards, inserted into a slot in the machine by an operator, control the system. The machine's electronic equipment scans the card, activates the gates and valves of storage bins, and simultaneously checks the weights of materials as they're delivered from the bins. When repetitive batches are required, the machine recycles automatically. Selection of materials can be changed instantly by inserting a new card.

The unit has push-button controls for manual operation. Its electronic controls are housed in a single console, the size of a filing cabinet. To facilitate maintenance, major components are installed in pullout drawers or mounted

Specify **STEELCASE**

whenever you want to make a good office . . . a little better



A King's Ransom . . . couldn't buy more efficiency . . . more convenience, comfort or beauty than an office color-planned and job-engineered with Steelcase Convertibles. Note the perfect meeting of the convertible tops in a smooth-flowing plane. Explore the variety of Convertible cabinets, shelves and cupboards, the smartly styled dictating unit which recedes and closes with finger-tip pressure. Top space gives you a working area almost equivalent to three standard 60 x 30 inch desks. The cabinets provide storage space to spare for catalogs, service manuals, reports, presentations and many other items. Add to this the prestige you command and you, too, will find it difficult not to convert to Convertibles . . . for an office fit for a king.



**Ask
your secretary**
to send for
full color 28-page
brochure on versatile,
new Steelcase
Convertibles. Just write
Department L.

Recent Steelcase installations include major offices for
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Report on the new MICHIGAN 12B



Power-shifting makes this new tractor shovel

faster and more maneuverable in boxcars and narrow aisles

If you've ever tried to shift gears and turn a corner at the same time, you'll understand why the new Michigan 12B is faster and more maneuverable in tight quarters. *You don't even have to stop to shift the 12B.* Without taking your left hand from the wheel, you simply push the single power-shift lever to High, Low or Reverse—instant shifting, just like a new car.

Speeds cycles. Clark's exclusive power-shift transmission and torque converter completely eliminate the

clutch pedal and engine clutch; no gear clash, no hesitation. Power-shifting instead of a manual gear-shift saves valuable seconds on every cycle, in addition to eliminating down-time due to clutch trouble.

Dust protection. Oil bath air cleaner, filters and sealed assemblies protect the 12B against dust and dirt in every conceivable way. Take a first-hand look at this modern Tractor Shovel—clip the coupon to your letterhead and we'll arrange a demonstration in your own plant.

Available on Clark's no-down-payment Lease Plan; write for Data Sheet 111.

<p>Michigan is a reg. trade-mark of</p> <p>CLARK EQUIPMENT</p>	<p>Send details on the Michigan Model 12B</p> <p>CLARK EQUIPMENT COMPANY</p> <p>Construction Machinery Division</p> <p>2451 Pipestone Road</p> <p>Benton Harbor 3, Michigan</p>
---	--

on swing-out panels. The electronically controlled circuit is built so that it will function properly despite vibration, moisture or dust.

• **Quick Arithmetic**—When the machine is called upon to mix a dry material, such as sand, with water, a dial on the console is set at the percentage of moisture in the sand and the unit automatically compensates for it by increasing the weight of the sand in the batch and decreasing the water added to the water batch.

Some models of the machine weigh several materials cumulatively in one batcher, or simultaneously in separate batchers. Each is designed to meet all existing federal and state specifications.

Price of the Batchmaster varies according to the job it's designed for. A model built to handle seven materials for ready-mix concrete is priced at about \$20,000.



Plant Built of Plastic

Laminated plastic panels made of a new structural material similar to the insulation material in freezers and refrigerator trucks have been used as the outside walls of a factory building (picture). The sandwich material was developed by Haskelite Mfg. Corp. of Grand Rapids, Mich.

Made of glass-fiber-reinforced polyester sheet bonded to a foam plastic core, the panels are highly resistant to impact, impervious to moisture and vermin, non-corrosive, and non-warping. The surfaces require no painting or other finishing, so maintenance costs are low.

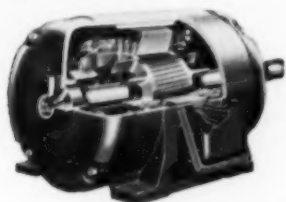
The plastic-walled plant, built in Grand Rapids for the Burke E. Porter Machinery Co., is of steel frame and curtain wall construction. All the walls of the building—floor area 8,480 sq. ft.



TWO WAYS...with Master Unibrakes

STOP-HOLD—Master Type M Magnetic Unibrake Motors. For quick, controlled stopping—especially when you want to hold the load. Spring-setting magnetic release brakes of the friction disc type combine with motor in a compact, integral unit. Sizes— $\frac{1}{8}$ to 150 H.P.

ROLLING STOP—Master Type D Dynamic Unibrake Motors. Braking is obtained with a unique, patented brake winding superimposed on the stator winding. Simple, compact, with no DC current required, the brake has no moving parts. There is nothing to wear or adjust—braking torque repeats consistently. Particularly recommended for automatic applications which do not require static holding. Sizes up to 30 H.P.



MASTER GEARMOTORS and variable speed drives can be supplied with integrated Unibrakes too. See Master for the perfect power drive for you.

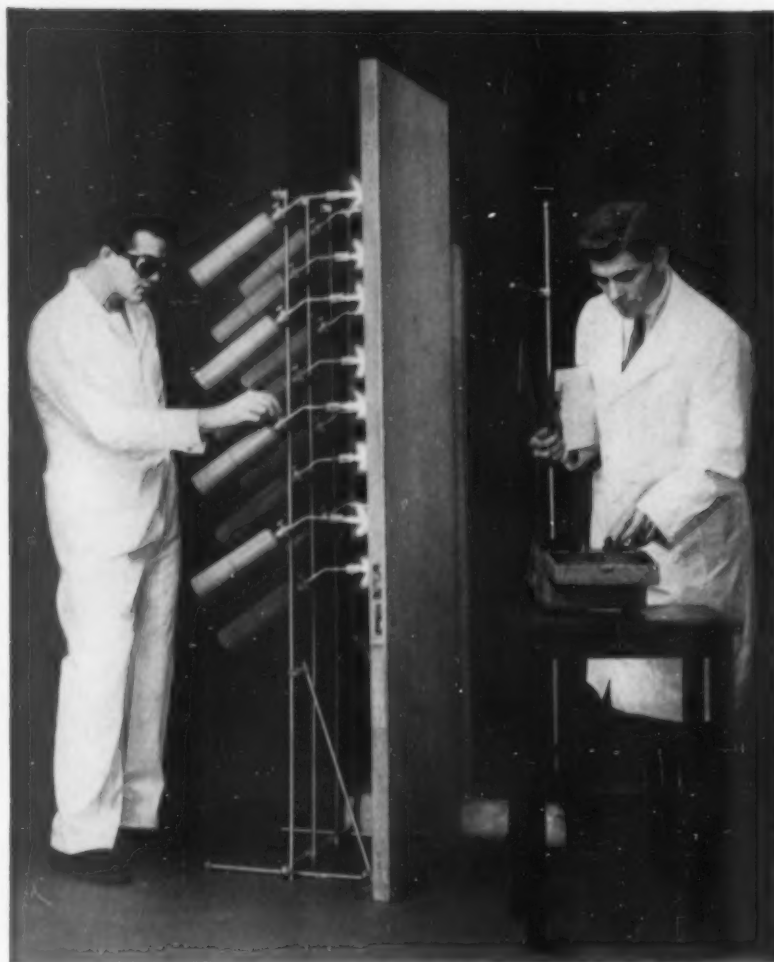


UNI BRAKE MOTORS



Type M Unibrake

THE MASTER ELECTRIC COMPANY
DAYTON 1, OHIO



How can a wood-faced door stand up under this blowtorch barrage? The answer lies in the Weldwood exclusive mineral core made of incombustible Weldrok®. Demonstration above reproduces laboratory test in which other side of the door was 650°F. cooler than a hollow metal fire door under same conditions.

New wood-faced Fire Door stops heat cold

Look at the blazing blowtorches on that Weldwood Fire Door* — 1700° F. hot! Yet after one hour of this searing flame, the temperature one foot from the other side of the door was only 102° F. And the temperature right on the surface of the door, after 30 minutes, was less than 250° F. You get positive protection not only from fire, but from destructive, suffocating heat as well.

Only Weldwood combines such efficiency with the natural beauty of fine wood veneers such as oak, birch, walnut and Korina®. This is the big reason why so many office

buildings, schools, hospitals, public buildings and even large homes specify Weldwood Fire Doors as their standard fire door.

Weldwood Fire Doors are strong, durable and light in weight. And Weldwood's *lifetime guarantee* covers all replacement costs including finishing and hanging.

Like to know more? Ask your architect (he'll find all specifications in Sweet's) or send coupon. To see Weldwood Stay-Strate® and Fire Doors, as well as the complete Weldwood line, visit any of our 87 branches in principal cities. *U. S. Patent No. 2,593,050



**Weldwood®
Fire Doors**

A product of

United States Plywood Corporation
In Canada—Weldwood Plywood, Ltd.

United States Plywood Corporation,
Weldwood Building,
55 West 44th St., New York 36, N. Y.

SEND ME your free booklet containing details on all Weldwood Doors including Weldwood Fire Doors and Stay-Strate Doors. BW 3-17-56

NAME.....

COMPANY.....

ADDRESS.....

CITY.....STATE.....

—are made of Hasko-Struct panels. The panels, 4 ft. by 8 ft., and 24 in. thick cost about \$2.20 per sq. ft. The wall-hanging job took only 85 man-hours, virtually a one-step operation since the panels have finished inside and outside surfaces.

- **Versatile**—The paneling, made by a continuous lamination process, is available in many lengths with thicknesses up to 6 in. Standard 4-ft. wide sizes come in 8-, 10-, and 12-ft. lengths. Prices range from 85¢ to \$2.80 per sq. ft., depending on the materials that are used.

This is the first industrial building using Hasko-Struct, but its good insulation qualities have given it varied uses in the refrigerator field:

- A new line of refrigerated trailers made by Fruehauf Trailer Co. uses the panels—bonded to an aluminum backing for added strength—both as insulation and as part of the weight-supporting structure of the vehicles.

- A major appliance manufacturer is now preparing to manufacture 25,000 20-cu. ft. home freezers with Hasko-Struct walls.



Quick-Action Splicer

Moisture-proof insulation for low voltage "tap" splices can be completed in less than 10 minutes with a new kit made by Minnesota Mining & Mfg. Co. The unit, Scotchcast splicing kit No. 90-B1, includes a mold that fits over the splice and a two-section plastic bag containing an insulating resin and an activator. The user pulls the sides of the bag apart, breaking a divider strip, and kneads the container until the substances are mixed.

A corner of the bag is then cut off, and its contents poured into the mold (picture). The resin hardens by itself.

The kit can be used on splices made with all conventional connectors. Price: \$4.95 per kit in quantities of 100.

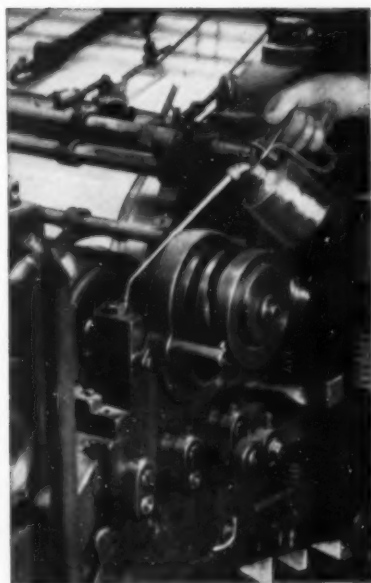


Seven Products Replace Twelve. Sun representatives show how Sun's plan of industrial lubrication and preventive maintenance benefit management.



Over 70% of all plant equipment is now lubricated by only two moderately priced oils.

How A Sun Engineer Helped Cut Lubrication Costs by 15%... Reduce Oil Inventory by 42%



Maintenance Is Easier. Sun's plan helps prevent mistakes...reduces chances of applying wrong lubricant.

For years, department foremen of a large folding box plant purchased "special" lubricants to meet individual needs. Throughout the plant, a total of twelve products were being used...some extremely high in price.

The man from Sun called management's attention to this fact. He pointed out that much of the plant equipment, although different in name and function, was mechanically the same. He proved that over 70% of the equipment could be lubricated by two products instead of several lubricants basically alike.

Today, as a result of Sun's recommendations, "special" lubricants are gone; costs of lubrication are down 15%; and, oil inventories are reduced by 42%.

For the full story about how Sun can simplify lubrication set-ups and save on oil costs...see your Sun representative or write **SUN OIL COMPANY, Philadelphia 3, Pa., Dept. BW-3.**



INDUSTRIAL PRODUCTS DEPARTMENT
SUN OIL COMPANY

PHILADELPHIA 3, PA.

IN CANADA: SUN OIL COMPANY, LTD., TORONTO AND MONTREAL

Something
goes into
this box
besides
interior
wall finishes...



NATIONAL FOLDING BOX

COMPANY DIVISION
FEDERAL PAPER BOARD COMPANY, INC.

SALES OFFICES: CHRYSLER BUILDING, NEW YORK 17, N.Y.; NEW HAVEN AND VERSAILLES, CONN.; BOGOTA, N.J.
BOSTON AND PALMER, MASS.; STEUBENVILLE, OHIO; PHILADELPHIA AND PITTSBURGH, PA.

FOLDING BOX PLANTS: BOGOTA, N.J.; NEW HAVEN AND VERSAILLES, CONN.; PALMER, MASS.; STEUBENVILLE, OHIO; PITTSBURGH, PA.
PAPER BOARD MILLS: BOGOTA, N.J.; NEW HAVEN, MONTVILLE AND VERSAILLES, CONN.; READING, PA.; STEUBENVILLE, O.; WHITE HALL, MD.

NEW PRODUCTS BRIEFS

Shaking boxcars can be expensive in a crap game but in a grain unloading operation, it's another matter. A new unit manufactured by Link-Belt Co., of Chicago, clamps on the end of a 150,000 lb. loaded freight car and shakes it up and down in a 3-in. arc. The grain inside is shifted to the center of the car where it flows out the regular door into a hopper. One man can unload up to four cars per hour.

A **long shelf-life battery**, designed to deliver full power after storage of 10 years or more, has been developed by P. R. Mallory & Co., Inc., at North Tarrytown, N. Y. The battery is completely dry—does not have any of the moist paste found in the conventional dry cell—and will not deteriorate in the temperature range between -65F to 165F. A 200-volt battery takes up only 1 cu. in. Price: \$1 per volt.

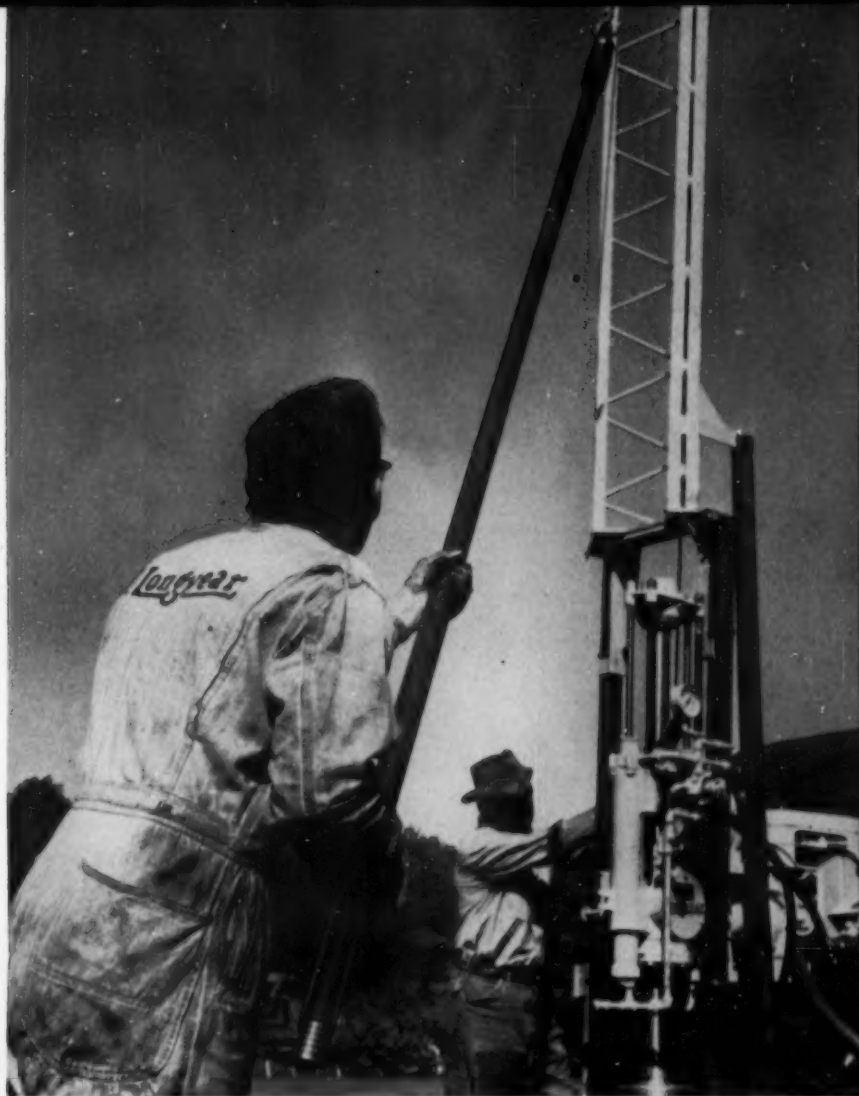
Desk-top television set with an 8½-in. picture tube is being manufactured by Radio Corp. of America. The unit weighs only 22 lb. and has its own disappearing antenna, carrying handle, and stand. Its dimensions are: 10½ in. high; 9½ in. wide; 12½ in. deep. Price: \$125.

Spruced-up blue jeans and other denim clothing result from use of a new half-rayon, half-cotton cloth produced by M. Lowenstein & Sons, New York. The fabric, woven with rayon developed by American Enka Corp., is designed for greater strength, resistance to abrasion, and color fastness than ordinary denim. Price of the new Jet-Power denim is 52½¢ per yd., compared with 37½¢ to 39½¢ per yd. for the conventional variety.

Behind-the-ear hearing aid that weighs only ¾-ounce has been developed by Sonotone Corp., New York. The whole unit hides behind the ear and has a volume of only 1 cu. in. The instrument is powered by a dime-sized battery that lasts about 130 hours—almost two weeks of normal use—and costs 34¢ to replace. Price of the Sonotone 79 is \$259.50.

Reinforced vinyl plastic for use in products that require light, waterproof, but strong fabrics, is being produced by Weblon, Inc., of New York. The material, made of an open-weave Fiberglas yarn laminated between two plies of vinyl film, resists the tendency of ordinary vinyl to expand any small tear or puncture under tension. This extra strength gives the plastic added versatility, especially in products that require stitching.

Hitting The Bullseye A Mile Underground



Drill rods of Pittsburgh Steel are used with mobile drill rigs such as this Longyear jeep-mounted model in the world-wide quest for vital minerals.

Pittsburgh Steel drill rods used by E. J. Longyear Company to score impressive prospecting firsts

Modern prospectors for vital raw materials are scientists. That's why geologists and engineers do the exploratory drilling for E. J. Longyear Company, the nation's number one prospecting organization.

Since the 1890's when E. J. Longyear himself drilled the first diamond bit into the rich iron ores of the Mesabi Range in Minnesota, Longyear prospectors have used Pittsburgh drill rods. They have accumulated an impressive list of firsts. Here

are a few of them:

- **Nickel**—Discovery and development of the millions-of-ton reserves of the Falconbridge Mine near Sudbury, Canada, in 1916.

- **Copper**—First diamond drill exploration of the multi-million-ton reserves of the Roan Antelope and Mufulira Mines, Africa, in 1929.

- **Iron Ore**—First exploration of the half-billion-ton reserves in the Cerro Bolivar, Venezuela, in 1947.

- **Uranium**—First exploration of one of the world's largest (several

million tons) uranium bodies at the Jackpile Mine, New Mexico, in 1955.

Here's how Longyear goes about finding strategic minerals:

Steel drill rods with diamond drill bits stab into the earth to depths of sometimes more than a mile, with precise accuracy, to strike a target area that often is extremely small.

As the drill bit advances, it carves out cylindrical cores of the earth's structure. Each core is about 1 to 2½ inches in diameter and may be up to 20 feet long, depending upon



Going deep requires heavy drilling equipment like this Longyear 44 truck-mounted diamond core drill operating in the southwest United States.

the size of the drill bit and the core barrel.

Each core is lifted to the surface and catalogued. When the hole is completed, the geologist has a cross section of the structure of the earth below.

This enables Longyear engineers to locate the ore body, determine its length and depth, estimate its potential, and translate this information into terms of mining methods, tonnage yields, and economics.

To implement its operations, Longyear manufactures special equipment such as diamond core drills in a variety of sizes, power units, bit rotating speeds, and hoisting capacities—and drilling supplies including drill rods, diamond core bits, casing, core barrels, core lifters, drill hole surveying instruments and other items.

Drillers are under constant competitive pressure to reduce

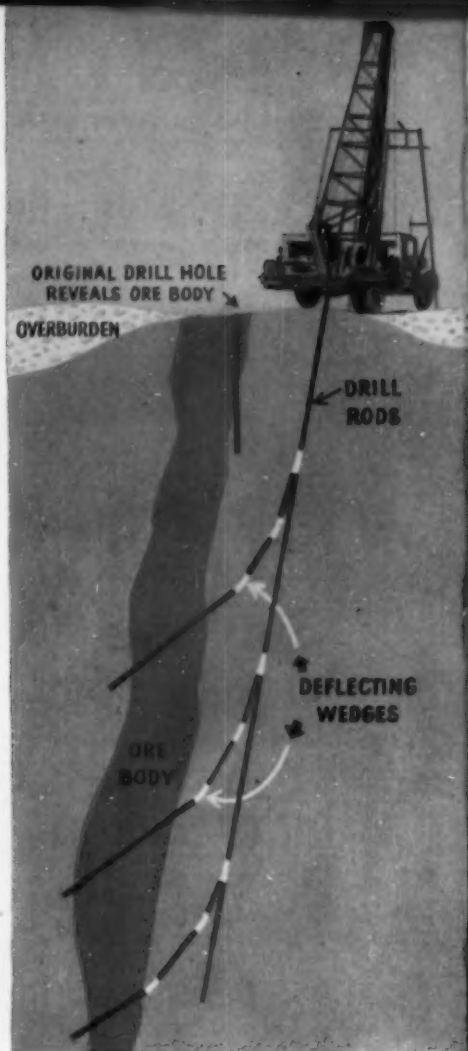
the cost per foot of hole drilled. Their success in keeping costs low determines the profit or loss on an operation. Drill rods are an important factor in this cost picture.

The usual "deep" drill hole will go between 3,000 and 5,000 feet into the ground, although some run 6,000 feet and more.

At 6,000 feet the weight of "NW" size drill rods suspended from the drilling platform is about 17 tons. This is being rotated by a 50 to 75 horsepower engine at speeds up to 800 rpm.

For speed and low costs in drilling, then, the drill rod must come from steel with the physical strength to withstand tremendous torque loading, shock, abrasive wear, and fatigue. In addition, it must be absolutely straight and concentric.

If the rod breaks under the abra-



Directional drilling tests skill of drill crew, strength of drill rods.

sion, torque, or the fatigue wear it receives, an expensive "fishing" job is required to recover the drill rods and save the drill hole. If the "fishing" job is not successful, the diamond drill tools are lost, and the hole may have to be abandoned. This can cost many thousands of dollars.

If the rod is not straight and concentric, it develops a "whip" and causes premature drill rod failure and excessive wear.

In directional drilling, the drill rods are subject to all normal physical requirements multiplied many times because the rods are forced around bends while being rotated.

In addition to these requirements, the steel for drill rods must have machinability—qualities that will permit high speed precision machining at low cost in manufacture. Field experience has helped Longyear and



Finished drill rods (right) provide a tight joint for internal couplings after they are threaded (left).

Pittsburgh Steel to develop specifications for this steel to meet the most rugged field requirements.

Longyear uses Pittsburgh Steel's cold drawn seamless mechanical tubing in the .30-.40 carbon range, with an internal upset at both ends, normalized to remove residual stresses and assure complete dimensional uniformity. It provides a tensile strength of 65,000 psi and a hardness of between 28 and 32 on the Rockwell C scale.

This tubing arrives at Longyear's plants in lengths that will make 5, 10 or 20-foot drill rods. The outside diameter for these rods ranges from $1\frac{1}{2}$ to $2\frac{3}{4}$ inches. They have a wall thickness of $\frac{3}{16}$ of an inch.

The internal upset enables them to be machined to provide a snug seat for the internal coupling that holds the rods together in a string, without weakening the wall. The upset on a $2\frac{3}{4}$ -inch outside diameter tube, for example, is to a $1\frac{1}{2}$ -inch inside diameter for a distance of 3 inches on each end.

In machining, the upset is bored to inside thread diameter, counter-bored, then threaded with heavy square threads to support the weight

of the string. It is chamfered at the ends to provide a watertight seal with the coupling so that the rod will contain the water circulated through the pipe during drilling to remove cuttings and act as a coolant.

Cutting tools have been specially designed by Longyear for accuracy in high speed machining. A slight defect in the quality of the steel can cause costly tool wear or broken tools.

Pittsburgh Steel meets all of these requirements consistently. Longyear can count on drill rods made from it for economy and reliable performance in the field. That's why you'll find it on almost every Longyear drilling operation.

If you have an application for seamless tubing, explore the advantages of reducing your costs and improving your product with Pittsburgh Steel. Modernly equipped and backed by more than a half-century of know-how, the company's skill and experience is at your service. Inquire for specifications. A call to our closest district office today will bring prompt personal attention.

Pittsburgh Seamless Mechanical Tubing is also available from:

Baker Steel & Tube Company
Los Angeles, California

Chicago Tube & Iron Company
Chicago, Illinois

The Cleveland Tool & Supply Co.
Cleveland, Ohio

Drummond McCall & Co., Limited
Montreal, Quebec, Canada

Edgcomb Steel Company
Philadelphia, Pennsylvania

Gilmore Steel & Supply Co.
San Francisco, California

Earle M. Jorgensen Co.

Mapes & Sprowl Steel Co.
Union, New Jersey

Metal Goods Corporation
St. Louis, Missouri

Miller Steel Company, Inc.
Hillside, New Jersey

A. B. Murray Co., Inc.
Elizabeth, New Jersey

C. A. Russell, Inc.
Houston, Texas

Ryerson, Joseph T. & Son, Inc.
Chicago, Illinois

Solar Steel Corporation
Cleveland, Ohio

Steel Sales Corporation
Chicago, Illinois

Tubular Sales
Detroit, Michigan

Ward Steel Co.
Boston, Massachusetts

Ward Steel Service Company
Dayton, Ohio

Pittsburgh Steel Company

Grant Building • Pittsburgh 30, Pa.

District Sales Offices

Atlanta	Columbus	Detroit	New York	Tulsa
Chicago	Dallas	Houston	Philadelphia	Warren, Ohio
Cleveland	Dayton	Los Angeles	Pittsburgh	

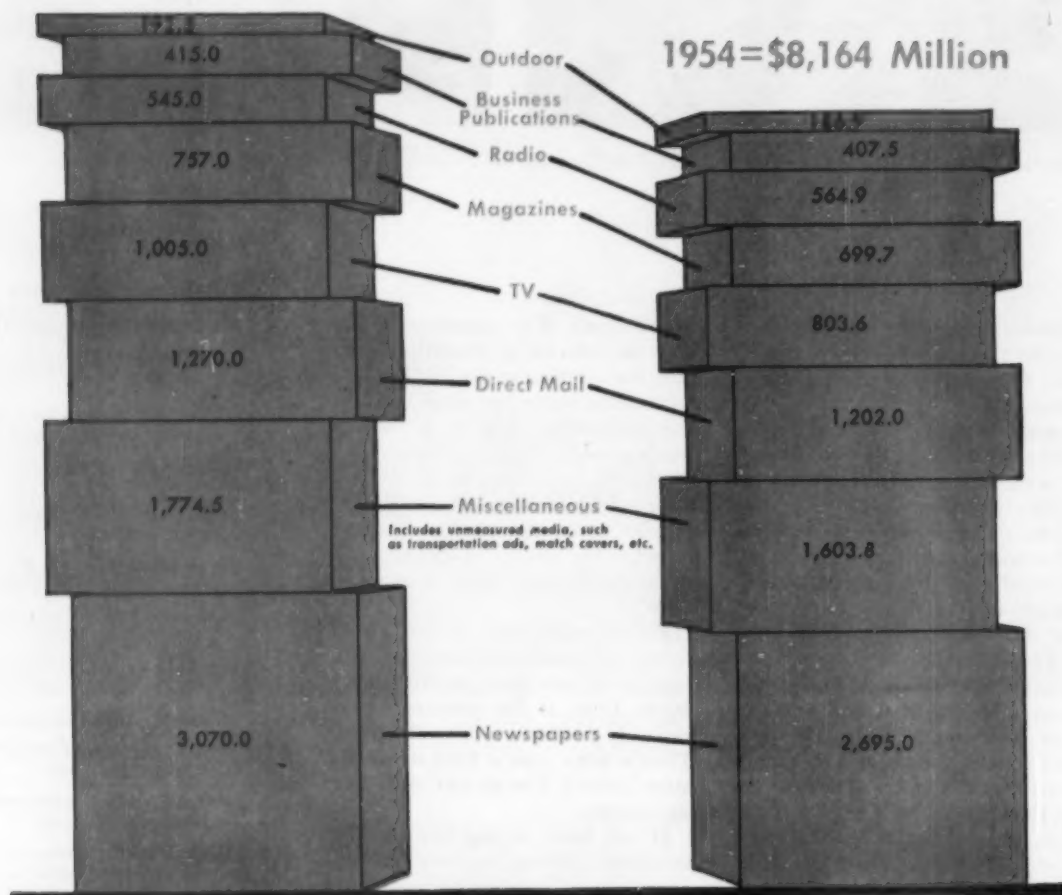


MARKETING

TOTAL ADVERTISING DOLLARS LOCAL AND NATIONAL

1955=\$9,029 Million

1954=\$8,164 Million



Data: McCann-Erickson Central Research Dept., Printers' Ink.

More for Almost Everyone

To the surprise of no one who peered at a cathode tube or hefted a Sunday paper during 1955, last year set records for both national and local advertising—a total of more than \$9-billion (chart above).

What is surprising is the magnitude of the year-to-year gain. Only once before have advertisers spent as much as \$865-million more than the year before—that was when spending rose from \$3.4-billion in 1946 to \$4.3-billion in 1947 under the impact of inflationary rate increases and postwar reconversion. From 1953 to 1954, advertising expenditures rose only \$355-million.

In 1954, national TV grabbed \$172-million—a huge 48%—of the new money spent on all advertising. Television was expanding its programming in the daytime hours, and the number of TV sets in homes was increasing. In national advertising, TV shut the newspapers out of any gain from 1954's new money and left the magazines with only a tiny 0.1% gain.

In 1955, there was enough new money to go around. Every medium except network radio shared in the gains. National TV's share of the added \$865-million stayed high in dollars but dropped to 16% instead of 48%.

• **Pace-Setters**—As in previous years, advertising continued to grow faster than the economy (chart, right), reflecting a trend among marketers to use advertising to stimulate sales rather than to hitch it to the sales curve.

For the first time in television's short history, advertisers spent more money on TV than on newspapers and magazines in the national field. According to estimates prepared by McCann-Erickson, Inc., for Printers' Ink, combined national TV—networks plus national spot advertising—rang up a total of \$785-million, compared with \$750-million for national newspaper advertising.

Figures on magazines and television from Publishers Information Bureau are based on one-time card rates. Figures on radio from Broadcasting-Telecasting Magazine's estimates. Figures on business publications are from McGraw-Hill Publishing Co.; those on newspaper lineage are from Media Records, Inc. Sunday supplements are counted with newspapers.

ing and \$723.5-million for magazines. Network and spot radio, which has been declining steadily, dropped to \$225-million.

These figures include all advertising costs, the budget for talent and production as well as time and space purchases. The tabulation at right looks at the figures from the viewpoint of the media—their time and space sales—rather than that of the advertiser, who foots the bill for the other costs, too.

• **Television**—Over-all, TV accounted for \$1 out of every \$9 invested last year in national and local advertising. The advertisers' outlay of more than \$1-billion in this field was \$201-million—about 25%—higher than the year before. In time sales (chart, right), the networks reaped 27% more.

According to Publishers Information Bureau, network TV's biggest gain in time sales came in toiletries, an advertising category that also ran big in 1954. The TV chains picked up an additional \$24-million from this source.

It was, of course, a banner year for automotive advertising on the TV networks—\$18-million more in time sales than the year before. Food advertising, a big item in 1954, accounted for an additional \$15-million worth of time. On the other hand, home furnishings, in which TV was the only medium that had made any gains in 1954, fell off by \$15-million while magazines picked up \$3.5-million there.

• **Radio**—Television's blind cousin, radio, continued a trend toward becoming a local, rather than national, advertising medium. Local radio's climb had been interrupted in 1954, but last year the shift was more marked than ever.

Network radio stayed on the skids last year, losing \$23-million worth of time sales. That's a hefty 30% loss. However, a good percentage gain on small volume by regional networks and a big gain by local radio more than offset the losses in national radio advertising. Time sales for radio altogether came to \$455-million, about \$4-million above 1954.

The dramatic shift in radio's character as an advertising medium is revealed by these figures:

In 1935 radio networks accounted for about half of the medium's total revenue, local broadcasting for about 32%. The rest was in sales of national advertising spots on local stations.

In 1955, network time sales declined

HOW MAJOR NATIONAL MEDIA FARED Time and Space Sales

TV Network

	Revenue 1955	% Change 1954
CBS	\$189,018,121	+29.3%
NBC	163,384,796	+29.6
ABC	51,393,434	+48.1
Dumont*	3,102,708	—
Total	406,899,059	+27.1

*Ended network operations in September 1955

Radio

	Revenue 1955	% Change 1954
Network	\$ 54,997,000	—30.3%
Regional Network	5,573,000	+16.9
Spot	117,070,000	+2.6
Total	177,640,000	—12.9

Magazines

	Revenue 1955	% Change 1954	No. of Pages 1955	% Change 1954
Weeklies & Bi-weeklies	\$340,496,730	+9.5%	27,491.41	+5.9%
Women's	104,961,885	+6.5	8,995.49	+1.6
Home	58,374,286	+9.3	7,862.80	+3.0
Farm	31,388,804	—1.3	5,025.18	—1.9
General Monthlies	42,191,561	+34.0	8,224.36	+9.9
Fashion	22,644,179	+10.	6,490.15	+7.7
Management	26,069,921	+4.8	9,230.17	+1.0
All Others	27,267,167	+6.4	8,133.38	+3.0
Total	653,394,533	+9.4	81,452.94	+4.3

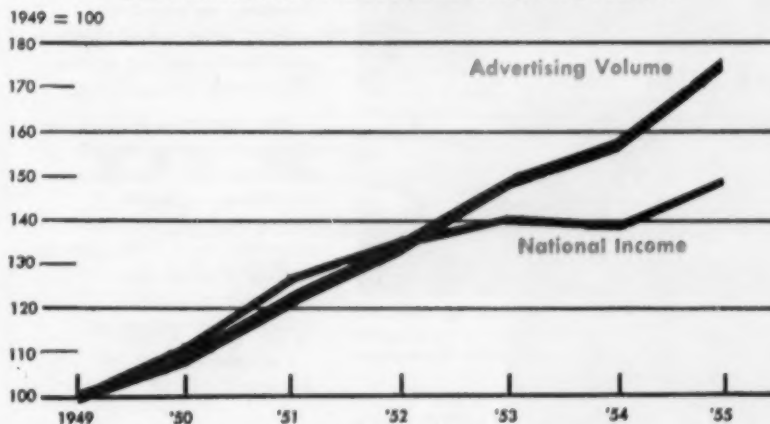
Newspapers

	Lineage 1955 (110 cities)	% Change 1954
General	584,425,479	+5.4%
Automotive	275,425,931	+34.0
Total	859,851,410	+13.1

Business Publications

	Revenue 1955	% Change 54	No. of Pages 1955	% Change 54
	\$435,000,000	+6.7%	1,065,000	+0.4%

ADVERTISING OUTPACES THE ECONOMY



Data: McCann-Ericson Inc., U.S. Dept. of Commerce.

©BUSINESS WEEK

HOUSE HUNTING?

IN CHICAGO . . . LOS ANGELES . . . NEW YORK . . . OR ANYWHERE

We Can Help You

Associated Homefinders, an entirely new service, will help you and your family find just the home you want in any unfamiliar city. *There is no charge for this service.* You can save days . . . often weeks . . . of tedious house hunting.

Here's how it works. If you or any of your associates plan to move, write us air mail today. Then an Associated Homefinder will ascertain from you your specific requirements — city, suburban or rural; your needs as to schools, churches, recreation, clubs and transportation. Before you leave your present home we will submit listings with detailed information including design, construction, price and taxes, assembled and checked by leading realtors selected for their proven knowledge of values.

Associated Homefinders will save you time, money and effort . . . and greatly increase the probability of finding just the home you want, in a prime location, within your price range and in a community where your family will enjoy living. At your convenience we will arrange your inspection program allowing ample time for such independent investigation as you may care to make. You incur no obligation whatsoever now or later.


**ASSOCIATED
HOMEFINDERS**
INCORPORATED
112 MAIN STREET
NEW CANAAN 2, CONNECTICUT

Jennite J-16

PROTECTS
ASPHALT...

Jennite J-16

...sure cure for airfield problems



At Columbus . . . 398,000 sq. yds. of fueling, service and parking areas are protected with Jennite. Note contrast between Jennite area and unsealed section in foreground . . . after 3 years' service.

Airfields, like your plant parking lot and home driveway, are paved with asphalt. Jennite liquid surface seal doubles asphalt service life, reduces upkeep costs.

Jenniting stops destructive effects of gasoline and oil, seals out frost . . . eliminates crumbling . . . retards drying action of sun. The attractive, satin black Jennite surface is tough, easy-to-clean . . . a sound maintenance investment.

For details, write for
Bulletin L-352-55.



MAINTENANCE INC. WOOSTER, OHIO

Distributors in principal cities

to only 12% of the total, while local operations swelled to 61%—about \$278-million of the \$455-million. The rest was in regional networks and spot advertising.

• **Magazines**—The position of magazines brightened a bit last year. Altogether they picked up an additional \$56-million, a gain of 9% over 1954. The groups that had been improving until they hit 1954's setback seemed to recover; they all showed increases in revenue last year.

The greatest gain was in the general monthlies. Their drop of 4% in 1954 turned into a 34% gain in 1955. However, \$7-million of their \$11-million gain came from one source: the nine-month revenue of Reader's Digest in its debut as a national advertising medium.

Magazines made their advertising gains in such product classes as food, household goods and services, tobacco products, and travel. Their rise in dollar revenue was accompanied by a lesser rise in the number of advertising pages printed. This means that the dollar gain was not due entirely to an increase in the rates charged to advertisers, though the increase in advertising pages didn't wipe out all of 1954's losses from 1953 volume.

• **Newspapers**—As usual, newspapers took the single biggest share of the total advertising expenditure, both national and local. They accounted for roughly one-third of total expenditure, for 47% of the year's total gains. Newspapers make their strongest showing in local advertising, such as department stores, that TV hasn't been able to penetrate.

Linage of general national advertising, down in 1954, rose 5.4% last year. The auto sales race helped the newspapers, too. In 110 cities, papers gained an additional 70-million lines of national automotive advertising. That's a 34% gain, compared with only a slight gain in 1954 over the previous year.

• **Trouble Spot**—Despite their look of strength, newspapers are competing most fiercely with TV in the race for the advertiser's dollar. The Bureau of Advertising of the American Newspaper Publishers Assn. has launched a "frontal assault" against TV (BW—Feb. 4 '56 p94). This campaign is designed to show national advertisers that they can buy more coverage through newspapers and can have more control over their advertising than in TV.

The Bureau of Advertising insists that it is motivated not by worry but by enthusiasm for aggressively competing with TV. John Ottinger of the bureau asserts that newspapers today are "at the pinnacle of their power as an advertising medium." Nothing else, he says, matches their impact and flexibility as a means of obtaining selective local coverage.

TV, too, has a Bureau of Advertising, formed last year. As a first step in defending TV, it has already challenged the newspapers' use of rating figures. The TV bureau warns its members that the newspaper people are "in dead earnest" and must be reckoned with in the national advertising competition.

• **Cause for Concern**—In worrying about TV rivalry in national advertising, the newspapers are obviously looking beyond a comparison of 1955 with 1954.

They are looking at a longer downward trend in general national advertising and at TV's inroads last year into automotive advertising, their other major category.

While general advertising rose 5.4% last year, lineage is still 3.4% below the 1950 figure. The newspapers' Bureau of Advertising itself has pointed out that newspapers took "quite a licking" last year in some subdivisions of national general advertising, such as beer, perfumes and cosmetics, and soaps. These were evidently direct losses to TV, which gained about \$7-million in network time sales for soap advertising and \$500,000 in time sales for beer, compared with 1954 figures.

The newspapers are clearly entrenched to head off further encroachment into general advertising by TV. That means a head-on clash in 1956.

At the same time, national automotive advertising in newspapers has been going up steadily. Since 1950, it has risen 58%, and it is now the chief support of the newspapers' national advertising revenue.

Some newspaper publishers view this "one crop" dependence with alarm. They don't want to see too much of their national advertising tied so closely to the auto companies, whose ad budgets traditionally fluctuate with auto sales. Newspapers would be happier with the diversified mix of national advertising that they could count on before TV came along.

Besides, the fact that TV, too, made substantial gains in automotive advertising last year did not escape the notice of newspaper publishers.

• **More for All**—Although some magazine advertising men also tend to view television with misgivings, most seem to agree with the attitude of a spokesman for one of the largest publications: "Nothing about TV should worry magazines."

This spokesman says the prime function of magazine advertising is to build a long-range market acceptance for an advertiser—something that magazines can do best. He also points out that the advent of each new medium in the past has, after causing ups and downs for a while, tended ultimately to raise the total volume of advertising, benefiting all media. **END**



symbol of dependability

Traditionally, the finding of a four-leaf clover symbolizes good fortune. In the history of DIXIE ALUMINUM CORPORATION's customer relationships, the four-leaf clover trademark has come to symbolize dependability.

In five years of phenomenal growth from an idea to a 15,000,000-pound per annum business, DIXIE has taken its place high in the ranks of companies devoted to the manufacture of aluminum extrusions.

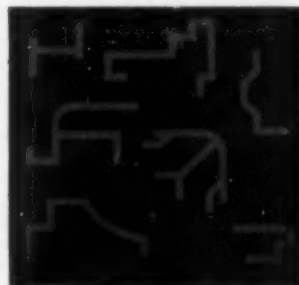
DIXIE ALUMINUM CORPORATION is a good name in aluminum extrusions . . . a name with a reputation for dependability.

DIXIE
Aluminum
CORPORATION

ROME / GEORGIA

DIXIE ALUMINUM CORPORATION

offers to the Eastern manufacturer a dependable source of aluminum extrusions.





*"On busy days like this,
I'm so thankful for my new CLARY!"*

Those extra-busy days in your office are when Clarys are really appreciated. More work gets done in less time...yet when the sun goes down, Clary girls are still morning-fresh!

Here are some other Clary blessings to count:
Power Controls that eliminate hand fatigue—easy answers to hard problems (even in multiplication and division)—hummingbird speed and humming quietness—modern beauty far ahead of its time.

All these in new Clary Adding Machines, and now color, too! Blue, gray, green, beige, turquoise—in your choice of 10-Key or Full Key. Find out how Clary spurs office morale and output...call your Clary dealer or Factory Branch Office today. Just look in the yellow pages!

BUSINESS MACHINES DIVISION
CLARY CORPORATION, SAN GABRIEL, CALIFORNIA

Creator of modern adding machines, cash registers, electronic equipment,
automatic controls, aircraft components...for America and the world



Sell-a-Thons

... directed at owners of competitive cars are Dodge's latest gimmick to pep up its sales campaign.

Dodge Div. of Chrysler Corp. has revived an old auto sales gimmick and given it a new twist in an attempt to grab some competitors' business.

Dodge dealers in selected cities now are running "Sell-a-Thons." They pick a different competitive car each week for six weeks, and pitch advertising copy directly at owners of the competitive cars and offer them "exceptional" deals. One week the target might be Ford, then Chevrolet, Mercury, Oldsmobile, Buick, Pontiac. The campaign began in New York, then moved to Philadelphia, Baltimore, Washington, Chicago, Los Angeles, Cleveland, Cincinnati, and St. Louis.

The fact that Dodge's campaign is coordinated by Grant Advertising, Inc., its national ad agency, and is a media campaign makes it new. In both 1954 and 1955, Ford Div. used direct mail literature addressed to owners of competing cars. But Dodge uses "saturation" tactics—local radio, TV newspapers, some direct mail, even local cut-ins on its three national TV shows.

One Dodge promoter says that in every city where it has been tried the metropolitan Dodge dealers report sales increases ranging from 11% to 66% above the sales of Dodge dealers in outlying areas.

Dodge's line of cars, ranging from a low-priced 6 up to a medium-priced V-8, competes with all six of the target cars. But its major competition in the sales standings is Mercury and Pontiac, and even with its 1955 and 1956 lines it hasn't been able to regain the standing it once had. In 1953, Dodge had 5.03% of the market, Mercury 5.01%, and Pontiac 6.72%. In 1954, Dodge slipped to 2.79%, Mercury to 4.88%, and Pontiac to 6.47%. Last year, Dodge swung back up to 3.97%, but Mercury moved up to 5.18%, and Pontiac to 7.39%. For January of this year, Dodge was back to 3.59%, Mercury to 4.56%, and Pontiac to 6.65%. In the same month, Dodge's loss was less than that of its biggest competitors, but that is small consolation when the objective is to move up a couple of sales notches.

That's what Sell-a-Thon is supposed to accomplish. However, one competitor points out that when Dodge makes an appeal to the owners of say Mercury, it is making Mercury owners think of trading. They might go to the Dodge showroom, but they'll also see what their Mercury dealer has to offer. **END**



The Heath Company of Benton Harbor, Michigan, installed conveyor rolls made of Armco ZINCGRIP Tubing in its shipping room. "We chose ZINCGRIP Tubing," said H. C. Knapp, Manager of Manufacture, "because it doesn't discolor . . . doesn't stain our packages."

What's more, with conveyor rolls, we've been able to increase our shipments of electronic parts for 'hi-fi' equipment approximately 50% with the same number of packers, thereby effecting a considerable saving in the cost of handling orders in our shipping department."

Armco ZINCGRIP Tubing helps packages make clean getaway

Another way that Armco serves business through research in steel

The shiny conveyor rolls in the picture above keep packages clean as a whistle. A protective zinc coating on this special Armco Tubing is the reason.

Armco ZINCGRIP® Tubing seals out moisture, so these rolls are protected from rust. There's no danger of rust discoloration on packages.

ZINCGRIP Tubing has other advantages, too. It costs less than nonferrous metals of comparable

strength. And it can be bent without damage to the zinc coating.

Can the handsome appearance and *longer life* of Armco ZINCGRIP Tubing add value to products *you* make or use? Gate posts, light standards, play-yard equipment and TV antennas, for example? Write us today, and we'll send you detailed information that will help you decide.

ARMCO STEEL CORPORATION

MIDDLETOWN, OHIO



SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

UNITED AIR LINES ANNOUNCES

A New Standard of Air Freight Service! In the latter part of April the first of five new DC-6A Cargoliners® will join the United Air Lines fleet. Added to the ten all-cargo planes we have now, these new DC-6As will increase our all-cargo space by nearly 70%.

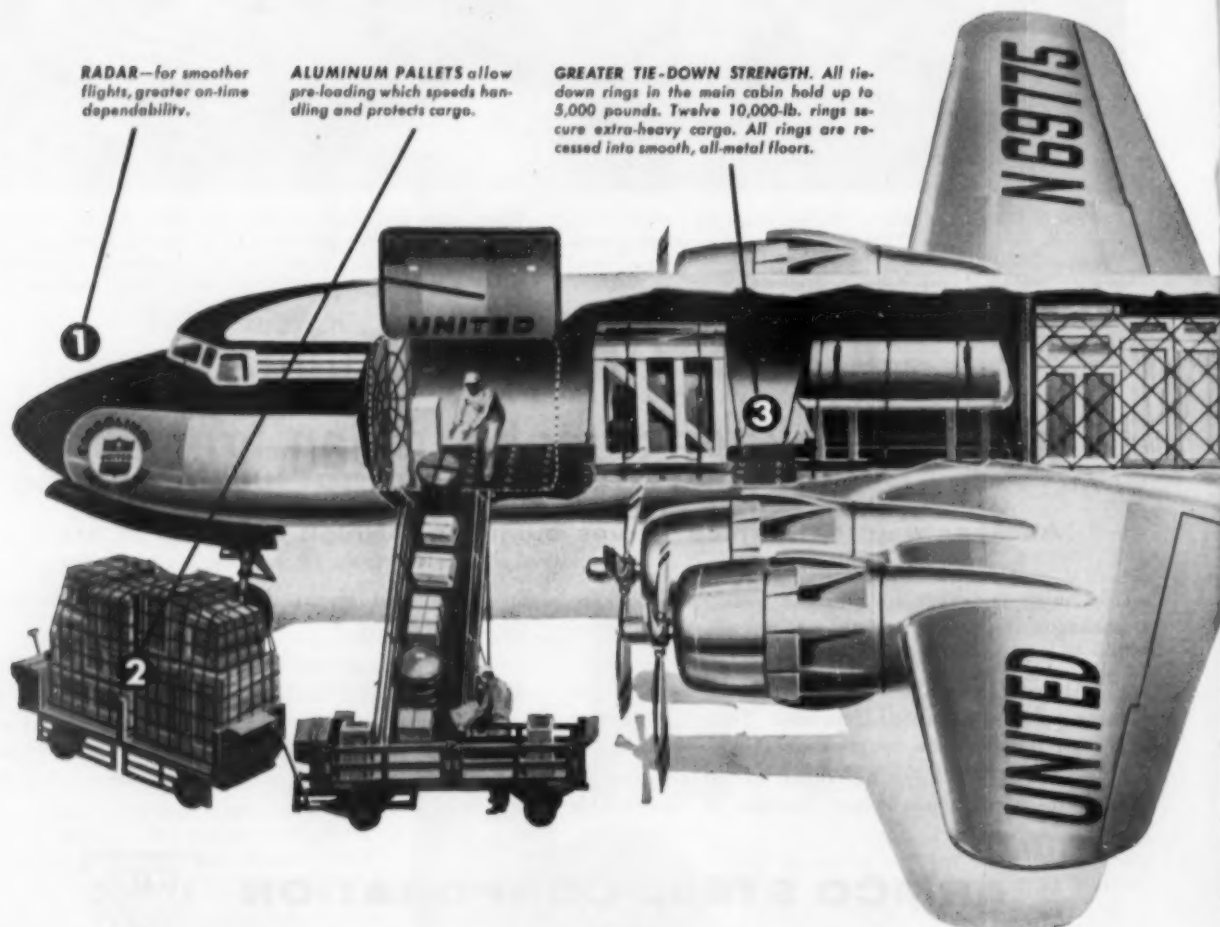
United's DC-6A Cargoliner is not only a new plane, it is a *different* plane. It incorporates many advanced and exclusive features. It carries up to 30,000 pounds of cargo, at a speed of 300 m.p.h. It ac-

commodates single pieces up to 76" x 81" x 115", and up to 8000 pounds.

In addition to this big and growing all-cargo fleet, you are also served by our regular Mainliners,® including United's DC-7s—which provide the nation's greatest 365 m.p.h. cargo lift. And from United Air Lines you get these exclusive "extras"—

Telemeter Air Bill. Special new equipment and United's vast communications system makes possible the handling of

Many exclusive features for greater



RADAR—for smoother flights, greater on-time dependability.

ALUMINUM PALLETS allow pre-loading which speeds handling and protects cargo.

GREATER TIE-DOWN STRENGTH. All tie-down rings in the main cabin hold up to 5,000 pounds. Twelve 10,000-lb. rings secure extra-heavy cargo. All rings are recessed into smooth, all-metal floors.

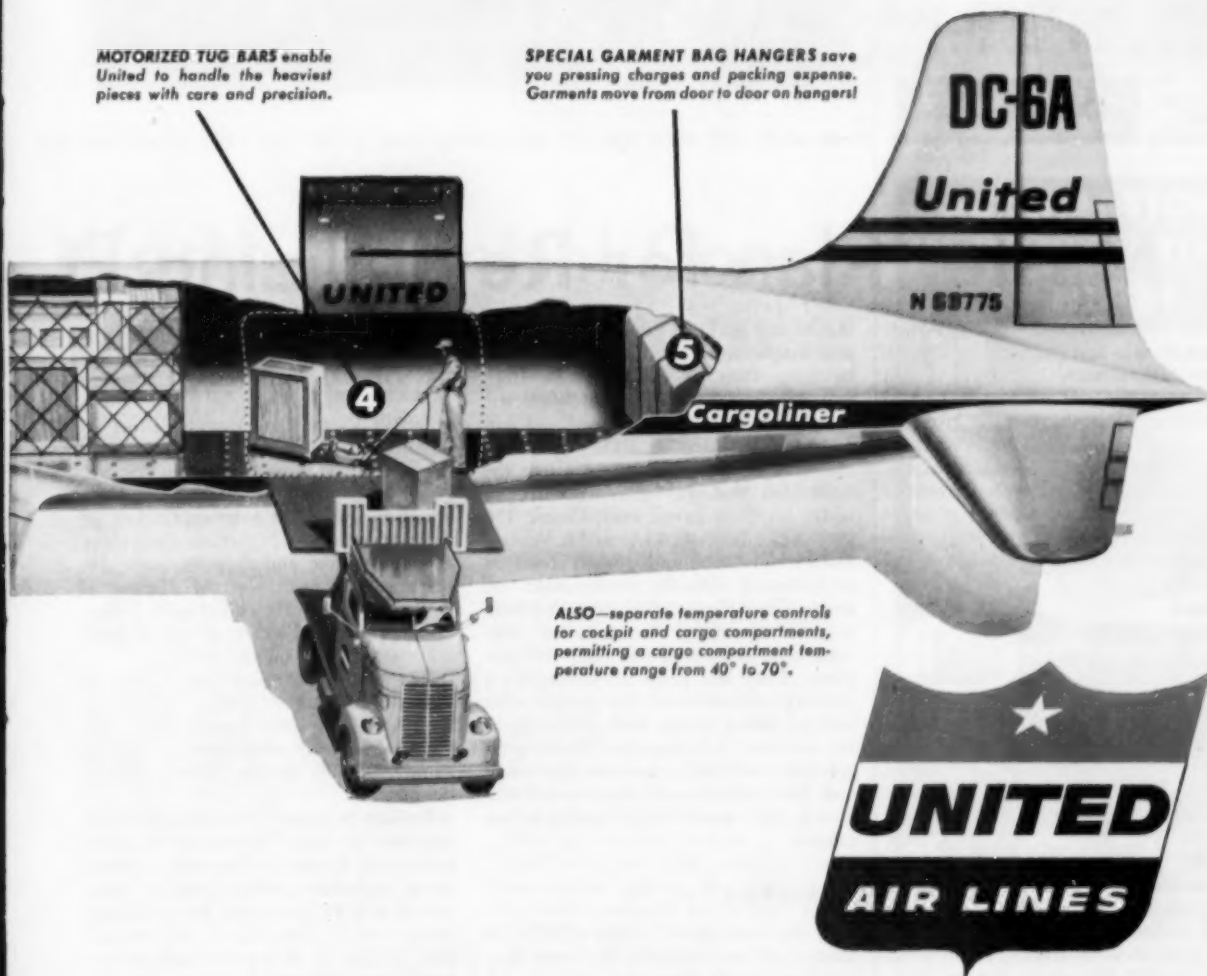
NEW DC-6A CARGOLINERS

complete air bills by wire. Advance notice of expected arrivals is possible now — while shipments are still in the air. This means the consignee can have pickup arrangements completed when the plane arrives.

Reserved Air Freight Space on All Equipment. An important United Air Lines exclusive. On request you can get advance reserved space on any United plane to any of the 80 cities on our route, and on connecting world-wide carriers.

These exclusives may seem like special handling to you — but they're just part of United's regular routine. Such service features plus the new DC-6As add up to just one thing: *A completely new standard of air freight service* for you. For service or information call your United Air Lines Freight Representative or write for new booklet on air freight tailored to your needs! Cargo Sales Division, Dept. A-3, United Air Lines, 5959 South Cicero Avenue, Chicago 38, Illinois.

shipping convenience, speed, protection





BUSINESS CENTER envisioned for Ft. Worth would have walks, open-air courts, gardens, malls, garages, with a belt parkway encircling

Master Plan for Revitalizing Ft.

Texas may think big. But Ft. Worth—which lives in fear of becoming a satellite of Dallas next door—thinks even bigger than the rest of Texas. Should a grandiose program revealed last Saturday finally work out, Ft. Worth is going to become the first city in the U.S. to redesign completely its central business and shopping district in order to cope with the blight and traffic congestion that threatens to strangle it and many other cities.

I. The Grand Plan

In this case, the town's businessmen have plans to re-do some 300 acres of the central downtown area between the railroads and the Trinity River.

All vehicular traffic would be cleared off the streets, which would become malls, walks, open-air courts, flower gardens. The result would be a cross between New York City's Rockefeller Center and the most modern shopping centers in the country. Its features would include such things as: service tunnels for delivery trucks; a belt parkway encircling the whole district, feed-

ing to big parking garages; nothing in this bright world of the future would be more than six minutes walk from your car—less if you take a little electric runabout; malls glassed over and air-conditioned.

These are some of the details of the bold plan that was unfolded last Saturday for three hours before some 150 civic and business leaders in Ft. Worth. Hard-headed men and women stood up and cheered when the presentation was over. Then they settled down to business. They elected officers to the planning committee that will push the program. They laid plans for setting up a steering committee of 300 people, who will get down to the hard job of figuring out how to finance the 15-year project—one unofficial estimate is that it will cost \$100-million—and how to sell the idea to their equally hard-headed fellow citizens.

II. Backers

If any such grand master plan has a chance of making out, this one has, thanks to its backing.

The man behind the whole idea is J. B. Thomas, president of Texas Electric Service Co., who about a year ago read a magazine article by designer-architect Victor Gruen, whose most renowned achievement thus far is the big J. L. Hudson shopping center, Northland, in Detroit. Gruen's ideas about the need for total replanning of downtown areas, not just chipping away at this problem and then that one, interested Thomas. He got Gruen to come to Ft. Worth, ended with a master plan (Texas Electric is said to have laid out \$75,000 on the project).

The Ft. Worth plan already has attracted considerable notice, though up to now it has been known only as a plan for City X, an anonymous city of about 500,000 people (BW-Oct. 22 '55,p64).

• **Business Support**—Thomas has already rounded up some impressive business backing for his idea. The man voted to act as chairman of the planning committee is J. Lee Johnson, Jr., president of the First National Bank. Vice-chairman is Clay J. Berry, manager of the Jesse Jones real estate interests in Ft.



the district. Redevelopment would cover 300 acres of the city's downtown area. It is a . . .

Worth's Central Core

Worth. Others on the committee include seven big retailers, two more bank presidents, and the town's publishers. Significantly, some of the retailers on the committee less than five years ago opposed establishment of new one-way streets because they feared some business might be diverted from their stores.

III. Impetus

But Ft. Worth now is in a mood to do something about its problems.

It is acutely aware that it doesn't get the share of the trade in its area that it should. Theoretically, its portion of the Dallas-Ft. Worth trading area should be about half, or about 750,000 people. But a lot of these potential customers simply bypass Ft. Worth and go on into Dallas. One good reason for their choice is that Ft. Worth is acutely short of retail selling space. It only has about a third of the retail floor space that it should have to handle its potential market.

• **Growing Blight**—On top of this, the city is bothered by the kind of things

that are seriously disturbing most U. S. cities. There is a slum section downtown with a high crime rate. Around the periphery of the business district is a once-fine residential district that is becoming more blighted every year. Downtown streets are choked with traffic. Alleys are too narrow to handle delivery trucks.

The worst of it is that things are bound to get worse. Gruen figures that by 1970, about 150,000 cars will be trying to squeeze into the downtown area every day. To take care of that would require the existing street system to be enlarged 300%, at which point the street system itself would be as big as the total floor space of the present downtown buildings.

Gruen decided that no stop-gap measures would do, nothing like free bus service for downtown shoppers, a system of one-way streets, or similar devices. In many cases, such palliatives often end in making the whole situation worse, as many towns have found out (BW—Jan. 15 '55, p42).

• **Hopeful Outlook**—In several ways, Ft. Worth's situation, though needing



PRECISION EXPANDING MANDRELS

PATTON also manufactures small precision products such as these CHAMPION Expanding Mandrels. Mandrel on left is of the precision type—accuracy to .0002". Standard mandrels—for production work.

Stock sizes range from 1/8"-9 1/2" dia. Special mandrels such as hexagonal, or square may be supplied. Custom mandrels are produced for special needs.

Write for address of local CHAMPION Distributor. Contact factory for information on special types and sizes.

PATTON
MFG. CO., INC.

Springfield
OHIO

AUTOMATION IN DUPLICATING IS HERE!

...at the touch of
a button you can print
110 copies per
minute



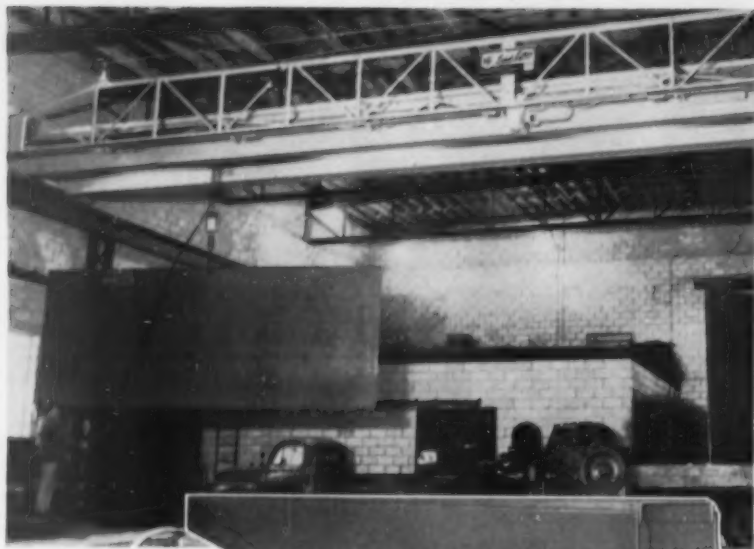
Heyer AUTOMATIC ELECTRIC SPIRIT DUPLICATOR

The Heyer Conqueror prints in 1 to 5 colors at a fraction of a cent per copy... without effort. Hundreds of sharp, clean copies of anything typed, written or drawn on the master simply pour out of this new duplicator. It "Always Makes a Good Impression."

THE HEYER CORPORATION
1823 S. Kostner Ave., Chicago 23, Ill.

Please send free booklet and details on Automation in Duplicating.

Name _____
Company _____
Address _____
City _____ State _____



Box-section welded girders provide extra bridge strength on 'Load Lifter' Cranes with spans over 50 feet.

TOPS IN CRANE SERVICE AND ECONOMY...at low prices

Here you see a typical Series "D" All-Electric 'Load Lifter' Crane. This Series differs importantly from all other brands available for average industrial service. Standardization and mass production methods permit the inclusion of design and construction features not combined in the most expensive cranes. Day-to-day operating and maintenance costs are minimized. Equally important, the initial investment is substantially lower than for other makes for comparable service.

Provided in Series "D" Cranes are plus values like these:

- Every practical use of anti-friction bearings to retard wear, to assure smooth operation.
- All gearing operates in oil to keep maintenance low.
- Double braking system to make accurate spotting easy.
- Positive magnetic control: Floor-operated cranes controlled by push button; cage-controlled cranes by master switches.
- Comparatively low headroom and high hook lift.
- Three-girder bridge on spans under 50 feet and box-section welded girders on longer spans to insure against whipping and skewing.

Series "D" All-Electric 'Load Lifter' Cranes are built in capacities from 1 to 20 tons. All provide complete safety for man, load and crane. Selection is easy. No complicated figuring. Just write for Catalog 221 and make your choice.



'Load Lifter' CRANES

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "SHAW-BOX" and "LOAD LIFTER" Cranes, "BUGGY" and "LOAD LIFTER" Hoists and other lifting specialties. Makers of "ASHCROFT" Gauges, "HAWCOCK" Valves, "CONSOLIDATED" Safety and Relief Valves, "AMERICAN" and "AMERICAN-MICROSE" Industrial Instruments, and Aircraft Products.

"... essentially he wants to put the city on a human scale by getting things within walking distance..."

FT. WORTH starts on p. 70

drastic measures, seemed hopeful. It is not an enormous city where values have risen so high that the plan would be impossible because of sheer cost.

On the other hand, the city is big enough to have both the money and the incentive to undertake a major program.

Furthermore, its main downtown district is a compact one, delineated by the river and railroads. Within this area are two kinds of property: substantial, well-built buildings that can and should be saved; completely rundown, blighted property.

With few exceptions, it won't be necessary to tear down anything more than two stories high, and the buildings that are over two stories high and need to be removed are mostly blighted and unproductive now.

In fact, many such buildings have been torn down in recent years to make way for parking lots—whole blocks that the mad rush for more parking space has made more profitable to use for parking than for floor space.

IV. Planning Objectives

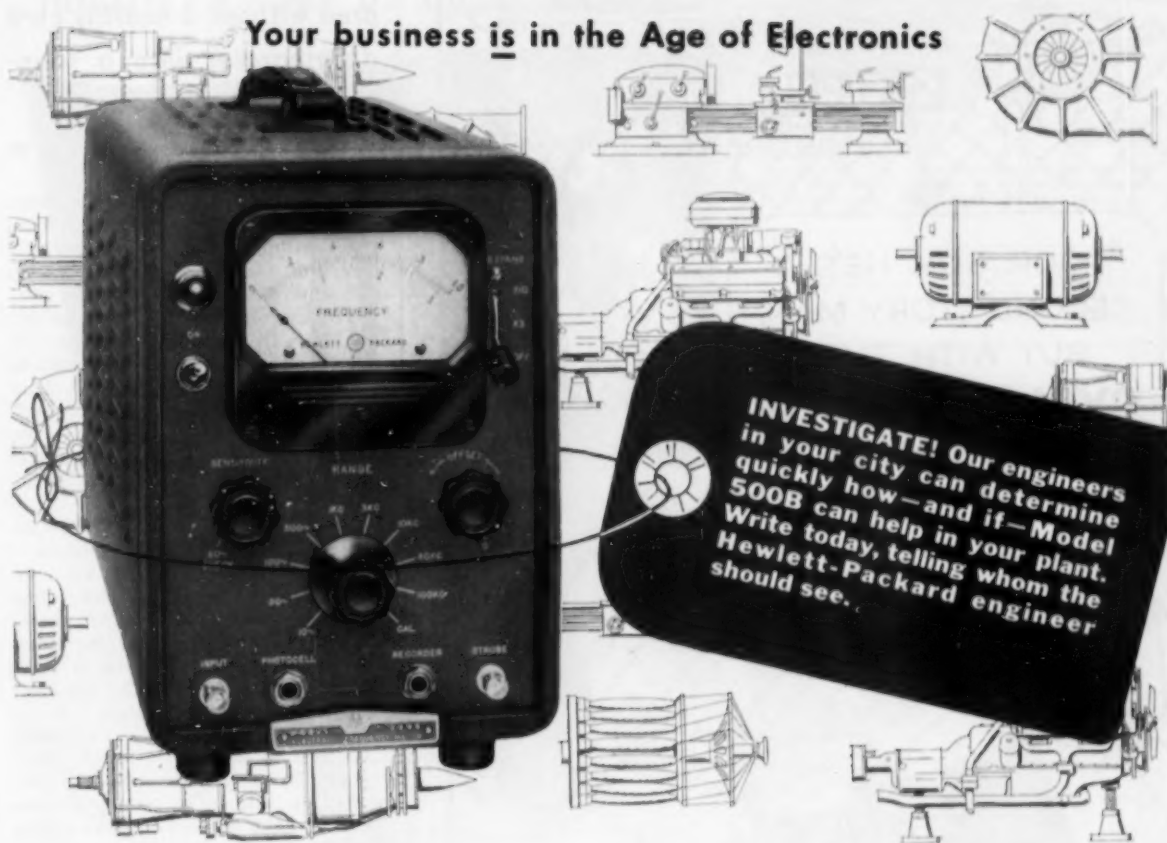
Gruen adapted to the Ft. Worth problem his own theories, which in turn he adapted from some of the best thinking in modern city planning through his experience with large-scale commercial planning. Essentially he wants to achieve downtown the same sort of thing he has achieved in such shopping centers as Northland—put the city on a human scale by getting things within walking distance, plan land for the best use possible.

Here are the four major things that Gruen wanted to achieve in Ft. Worth:

Most productive use of the land. This means upgrading the central district and tearing out obsolete structures. In part, it also means actually selling some of the present street areas for use by retailers and restaurateurs. In fact, the plan would give the downtown sector more productive land area than it now has. (Pedestrian malls don't have to be so wide as streets that carry vehicles.)

A free flow of traffic throughout the feeder area. This will be achieved by the loop or beltline ringing the district, which gathers traffic from the city road system and funnels it into perimeter parking. There are to be six multi-

Your business is in the Age of Electronics



This new instrument is a low cost solution to industrial control and overspeed problems

Automatic speed control is a vital part of modern manufacturing. The ingenious new Hewlett-Packard 500B Frequency Meter provides a sure, simple electronic way to control machinery speed, guard against overspeed or underspeed, and facilitate speed recording. The instrument will also count or control many other quantities such as random events, temperature, pressure and weight, which can be converted to electrical impulses. Operation does not require technical training.

Model 500B, priced at \$285, is one of over 250 major precision instruments Hewlett-Packard manufactures for science, the military, and industry.



WORLD LEADER IN ELECTRONIC
MEASURING EQUIPMENT

Engineers in principal areas throughout the U. S. and Free World

HEWLETT-PACKARD COMPANY

275 PAGE MILL ROAD • PALO ALTO, CALIFORNIA, U.S.A.
CABLE "HEWPACK" • Davenport 5-4451



Just about everybody knows what Cyclone Fence is, because it's the most widely used property protection fence in the whole world.

But don't you think you ought to have *all* the information right at your fingertips? You send the coupon. We'll send the information.

USS CYCLONE FENCE

Cyclone is the trade-mark name of fence made only by Cyclone. Accept no substitute.

FREE BOOKLET SHOWS HOW TO PROTECT YOUR PROPERTY

This booklet shows how to guard against vandals and intruders with proper use of fence. It is filled with photographs and drawings that show how to use fencing for best results, plus information on gates, barbed wire top treatment, and installation methods. Send for your free copy whether you need only a few feet—or miles of it.

CLIP THIS COUPON

SEND IT TO:
Cyclone Fence, Waukegan, Ill., Dept. 436

Please mail me a free copy of your booklet.

Name

Address

City Zone State



UNITED STATES STEEL

"... Gruen says an urban area without a healthy core disintegrates into a formless sprawl . . ."

FT. WORTH starts on p. 70

level garages, plus terminals for buses.

Segregation of service and pedestrian traffic within the central district. Underground roads and unloading bays will achieve this.

The core city concept. This is central to Gruen's thinking about the purpose of a central city. It should be small enough so that you can get about on foot. It should be attractive enough so that people want to go there—hence the sculpture, benches, parks, and greenery that Gruen dots about so liberally.

Basic to this scheme also is the relegation of nonconforming business and industry to other areas. Gruen even has ideas about the kind of stores, that should be encouraged to locate downtown in the central district—big stores with broad selection of goods or small specialty shops with goods that you can't find readily in outlying shops.

Gruen believes that without a healthy core area, an urban area simply disintegrates into a formless sprawl. In Ft. Worth he is trying to reintegrate into the center the things he thinks belong there.

V. Implementation

To implement this plan, Thomas and his colleagues are thinking in terms of setting up two public authorities, one for the parking garages and one for the over-all land development program. These agencies would be modeled on the lines of the New York Port Authority and would have authority over land use and power of condemnation. They could also issue tax-exempt bonds.

Thus far, the group is chary of talking costs and financing details, but they have given some idea of how it might be done.

• **Financing**—For example, it is figured that currently people spend \$3.5-million annually to park their cars in the downtown area. This is enough, says Thomas, to pay interest and amortization on \$60-million worth of bonds. The bond contract could provide that whenever revenues accumulated a surplus equal to two years of debt service, the additional surplus could be used for any purpose that would stimulate further revenue.

Thomas also thinks that sale of land now used for streets could realize another \$50-million or \$60-million. **END**

Industry's "Sea of Opportunity"

debt-free INDIANA



MAIL COUPON TODAY

DIRECTOR, INDIANA DEPARTMENT OF COMMERCE
B-333, State House
Indianapolis, Indiana

Dear Sir:

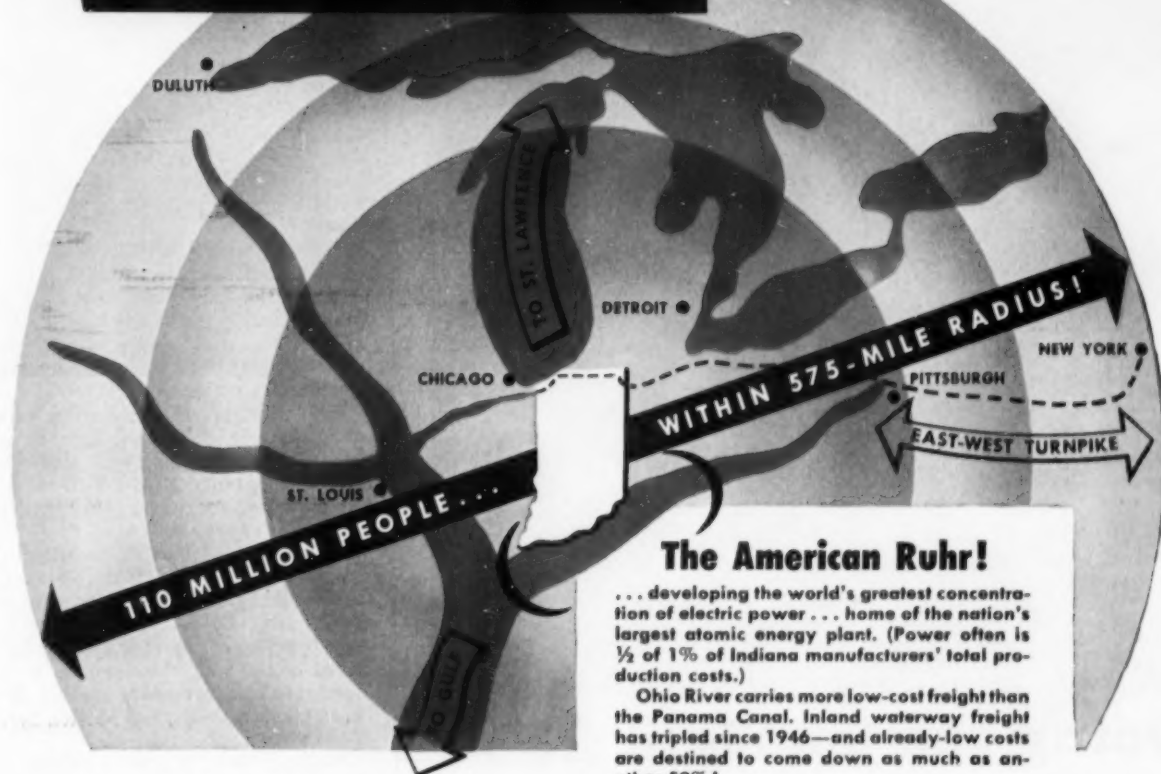
Please send me _____ copies of your new 28-page brochure, entitled
**WHY DEBT-FREE INDIANA IS ATTRACTING MORE
INDUSTRY THAN ANY OTHER STATE PER CAPITA.**

NAME _____

ADDRESS _____

CITY _____

STATE _____



The American Ruhr!

... developing the world's greatest concentration of electric power ... home of the nation's largest atomic energy plant. (Power often is 1/2 of 1% of Indiana manufacturers' total production costs.)

Ohio River carries more low-cost freight than the Panama Canal. Inland waterway freight has tripled since 1946—and already-low costs are destined to come down as much as another 50%!

NO STATE DEBT! Our State Constitution forbids it! In fact, Indiana has millions of dollars in surplus!

NO "NUISANCE" OR "PENALTY" TAX. No net income, use, retail sales, corporate or manufacturer's tax! NO tax on receipts from sales in interstate or foreign commerce! Only 1/4 of 1% on gross receipts from sales for processing, re-sale, etc., not in interstate or foreign commerce; 1% on other receipts derived in Indiana except from sale to ultimate consumer (1/2 of 1%). And Indiana's unemployment tax is far lower than average!

RAW MATERIALS. Low-cost coal. Limestone. Natural gas. "Clay Center of the World." Petroleum. "White Clay," rich in aluminum. Gypsum. Rock asphalt. Dolomite. Fluorspar. Water, sand, gravel, wood, corn, soybeans, etc.

23 RAILROADS, 300 MOTOR FREIGHT LINES, 9 airlines, 200 airports, more miles of paved highway per driver and per square mile than any other state—and all paid for!

GOOD LABOR. Responsible, versatile, 97% native, 30% fewer government workers per capita than nationally. Enviably low strike and lockout records. First in U. S. with labor-management charter.

AND IT'S GOOD TO LIVE IN INDIANA! Superb schools; 29 state and local colleges, universities. Fine housing, moderate rent. Low-cost state and local government. Good climate. Good hunting, fishing, conservation. Over 1000 lakes, streams; 32 famous state parks, forests, beaches. Resorts. Winter sports. Fine public swimming pools, parks, playgrounds, golf courses. And friendly, gracious people!

Lighting by



makes the big difference



Doing the job right

is so dependent on lighting it right. And good lighting makes the big difference in seeing and doing—relieves eye strain and fatigue, helps meet close tolerances, reduces spoilage, improves worker safety and morale. That's why industry is rapidly adopting new Day-Brite CFI (*Comfort For Industry*) fixtures with slotted reflector units which throw the light upward as well as down on the work... Before you decide on any phase of lighting, consult your Day-Brite representative. You'll find him in your classified phone directory. Or, send for special CFI industry-lighting literature.

Nation's largest manufacturer of lighting equipment
—for factories, schools, stores, offices, hospitals



Day-Brite Lighting, Inc., 5474 Bulwer Ave., St. Louis 7, Mo.

61122

Woman's Day...

... faces antitrust suit by independent grocers who charge discriminatory advertising practices.

The supermarket magazines, until recently one of the most aggressive and successful groups of young periodicals in the whole publishing field, are having their troubles.

These magazines, which are distributed through the nation's food stores, had a collective drop in advertising revenue last year. Now, on top of this, the second leading magazine in the field, *Woman's Day*, owned by the Great Atlantic & Pacific Tea Co. and distributed through its stores, has become involved in a legal fight.

An antitrust suit was brought by a group of 25 Chicago grocers and food wholesalers. They ask \$3-million treble-damages from A&P, *Woman's Day*, and three suppliers to A&P—General Foods, Hunt Foods, and Morton Salt—which are also advertisers in *Woman's Day*.

• **Discrimination**—The basis of the suit is the claim that by advertising in A&P's magazine, these suppliers are engaging in a discriminatory practice that hurts the business of the 25 independents. In effect, the plaintiffs say, this advertising constitutes a rebate to A&P.

The Chicago retailers and wholesalers describe *Woman's Day* as a "competitive advertising and publicity device" the purpose of which is to increase store traffic in A&P stores through a "captive audience."

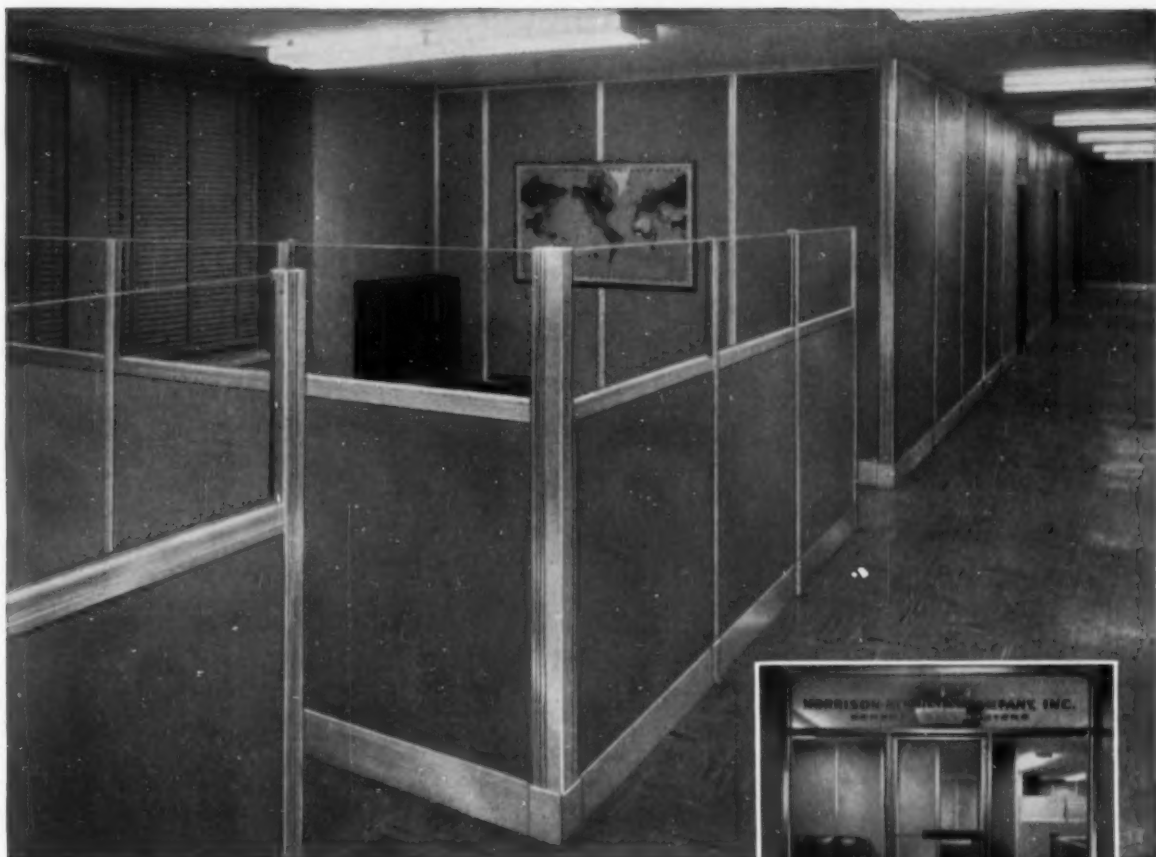
They further say that the "substantial sums of money" spent by the three big food suppliers in *Woman's Day* is "exclusively for and on behalf of" A&P.

In the eyes of the independents involved in the suit, this amounts to a "substantial reduction in price" by Hunt, General Foods, and Morton Salt to the giant food chain.

Woman's Day, in a brief statement to the press, maintains that the charges have no substance.

• **Revenue**—Collectively, the four major, nationally distributed supermarket magazines experienced a drop in advertising revenue last year as compared with the year before. The trade attributes this largely to renewed vigorous competition from the women's service magazines, such as *Good Housekeeping*. The women's service group had a gain of 6.5% in revenue last year, according to Publishers Information Bureau.

Meanwhile, *Woman's Day* dropped from \$9.4-million advertising revenue to \$9.3-million last year. **END**



Something new and flexible
has happened to movable partitions!

Reynowall

Aluminum Movable Partition Systems

Here's the newest concept in economical metal partitions...strong, rigid, beautiful Reynowall! This system provides complete flexibility to meet any present plan and all future modifications. Simplicity of design assures fast installation and easy relocation. Cornice and ceiling-high partitions can be quickly cut down to lower height. Glazed railing units can be modified to low railing heights. All cutting can be done on the job.

You plan with six unit types, from 42½" railing height to 9'2¼" solid or glazed partition. Each type is designed to use modules 36", 42" and 48" wide. Six standard baked-on colors, hammer-embossed or leather-grain finish. For complete data on Reynowall write to...

Reynolds Metals Company, 2021 S. Ninth St., Louisville 1, Ky.



Reynowall movable partitions add dignity and beauty to these modern offices of the well-known contractor firm: **Morrison-Knudsen Company, Inc.**, in San Francisco.

Framing members are strong, fluted aluminum extrusions. Panels are rigid, tray-like assemblies of embossed aluminum bonded to resin-impregnated kraft honeycomb cores. Maximum overall partition thickness, 2" — saves floor space. Provision for electrical wiring facilities within the partition members.

REYNOLDS ALUMINUM BUILDING PRODUCTS

See "FRONTIER," Reynolds great dramatic series, Sundays, NBC-TV Network.



"OUR DECISION TO MOVE TO IOWA WAS A WISE ONE."

I. W. Wilson

I. W. Wilson, President,
Aluminum Company of America

"Aluminum Company of America chose to locate its newest mill in Iowa only after extensive investigation of many sites. Iowa was selected because of the many advantages the area offered.

"The plant would be adjacent to the consuming market area, and we found adequate transportation facilities available. As our investigations progressed, it became obvious that in Iowa we would be surrounded by good neighbors, friendly people progressive in their efforts to help their fellow Iowans prosper. And we were confident that the state government was made up of men with reasonable philosophies toward industrial development and equitable tax programs.

"Since 1946, experience has shown that our expectations were fully justified. Events are proving that our decision to become an industrial citizen of Iowa was a wise one."

Iowa's geographical location is an important advantage to industries who distribute their products nationally. And with the U.S. population center moving westward, industrial planners consider Iowa's location doubly important. If you're considering a move, write to the Iowa Development Commission for a list of available plant sites.

Address your inquiry to —



**IOWA
DEVELOPMENT
COMMISSION**

319 Jewett Building • Des Moines 9, Iowa

INDUSTRIES



Trucks: Building

If it seems as if you're seeing more big trucks, and bigger trucks, in front of you on the road nowadays, that's not just an impression—it's a fact.

After sagging unexpectedly far two years ago, the truck market bucked back last year to one of the best performances in its history—and truck manufacturers expect 1956 to be just as good. The reason? It's the runaway sales of big construction trucks, such as the one in the picture, and over-the-highway haulers.

• **Consequences**—Sales of the heavies—trucks with a "gross vehicle weight" (fully loaded) of 16,000 lb. or more—increased more than 30% in 1955, while total truck sales increased only 15%. This has brought about two enormously significant events in the truck-manufacturing world:

• The "independent" producers, after being on the ropes in 1954, had a walloping good year in 1955, and are expecting another one this year.

• Chevrolet, which has led in total truck sales for 18 years without offering a heavy truck, has gone into that market with its 1956 line.

I. A Changing Market

The two happenings are interrelated. It's a race now to see whether the heavy truck market will expand fast enough to permit Chevrolet to carve out its share without damage to the independents or whether the smaller pro-

ducers will be caught in the middle as Chevrolet makes a frontal assault on Ford on still another battleground. A quick rundown on the truck business marks out the zone of conflict.

Historically, the truck sales curve follows the gross national product curve. That's why the truck people were bewildered two years ago when truck sales dropped faster than GNP (BW-May 8'54,p129). In 1955, truck sales again defied precedent by rising 15% while GNP was going up only half as much. Few people realized it at the time, but both contradictions are traceable to a fundamental change in the market.

• **Big Get Bigger**—Light trucks, grossing 10,000 lb. or less, have always had the biggest part of the market, and Chevrolet dominated it. Next biggest slice of the market has gone to medium trucks, 10,000-16,000 lb. gross. Chevrolet is top-dog here, too. But when you get into the heavies, you find that the roles have changed radically. Chevrolet has been absent from this category, and International Harvester has always been kingpin, pressed hard at the low end of the weight scale by Ford and GMC, with White and Mack as runners-up in the heavy-heavy class.

Two years ago, truck men were expecting their market to remain strong, even though the passenger car market was falling. They felt that a lot of light and light-medium trucks were due for replacement. Instead, sales in the 5,000- to 14,000-lb. class slipped from

The 1955 Truck Market

Commercial Car Registrations

Total 1955—957,001

Total 1954—829,101

	Total Registration 1955	Percent Share of '55 Market	Percent Share of '54 Market
Chevrolet	329,791	34.46	35.35
Ford	295,900	30.92	32.30
International	100,441	10.49	10.16
GMC	84,877	8.87	8.04
Dodge	66,208	6.92	7.32
Willys	27,252	2.85	2.11
White*	14,372	1.50	1.37
Mack	10,932	1.14	.74
Studebaker	10,817	1.13	1.23
Diamond T	3,697	.39	.33
Reo	3,121	.33	.28
Brockway	1,144	.12	.15
Miscellaneous**	8,448	.88	.62

*White includes Autocar, Freightliner, and Sterling.

**Miscellaneous includes Corbitt, Marmon-Herrington, Four Wheel Drive, Federal, etc.
Data: Automotive News from R. L. Polk & Co.

More and Bigger

1953 levels. That dragged the entire market down. But the really significant thing in 1954 was the increase in truck sales in the 14,000- to 16,000-lb. class.

Roughly the same thing happened again last year. In 1955, very light trucks got a slightly larger share of the market than in 1954. The grouping from 5,000 to 14,000 lb. slipped again. Substantial gains were made by trucks from 16,000 lb. up. And that is the class in which most of the independents have specialized.

• **Happy Specialists**—The financial results of the leading truck companies that aren't linked with passenger cars tell the story:

• International Harvester's sales of trucks alone jumped from \$345-million to \$455-million.

• White Motor Co. sales were up from \$145-million to \$180-million.

• Mack Trucks, Inc., sales shot up from \$120-million to \$194-million.

• Diamond T sales rose from \$18-million to \$28-million.

• Reo Motors, Inc., now a subsidiary of Bohn Aluminum & Brass Corp., no longer reports separately, but for the first six months of 1955, sales were 66% over the last half of 1954. In 1954, Bohn lost \$351,000, but in 1955 it earned \$2.2-million—undoubtedly reflecting in part Reo's return to health.

• **Still Changing**—The 1955 trend in trucks has continued so far this year. Registrations are complete only for Jan-

uary, but they show over-all truck sales 6% above a year ago, while sales in the under-16,000 lb. class have fallen 2%.

There are several reasons for the changing characteristics of the truck market:

• The very light trucks, under 5,000 lb., are flashier and have higher performance than somewhat heavier trucks of a few years ago, so some buyers in the 5,000-10,000-lb. class have shifted down to them. Even though station wagons have been replacing trucks in some uses, the very light trucks are gaining in sales.

• Better performance and easier handling in the 14,000-16,000-lb. trucks have lured some buyers to shift upward from the light-medium class.

• But the greatest factor is the need for what the heavies can offer.

II. Hopes for Heavies

Manufacturers of the heavy trucks are ecstatic. "We are looking for an excellent year," says John C. Tooker, president of Reo. "We expect sales to be substantially over 1955. We are getting into the heavy-duty business more than ever before."

Robert F. Black, president of White, and P. O. Peterson, president of Mack (which sells 42% of all diesel trucks), feel much the same way.

• **Cause of a Swing**—Construction is still at a high level, and the nation is talking of a highway-building program



16 tons
of manganese ore

This modern miner loads 16 Tons in two minutes flat—and he can do it all day—easy! The eleven-Ton Model HO "PAYLOADER" shovel is like a toy in his hands — thanks to its power shift, power steer, power brakes, power hoist and no "clutching"

Model HO is the biggest of the complete line of "PAY-LOADER" tractor-shovels. The smallest "PAYLOADER" can scamper in and out of box cars like a squirrel, carrying up to 50 Tons per hour. There's a "PAYLOADER" size to fit your needs and there's a nearby Distributor ready to give you full information.



Model HA — 18 cu. ft. capacity

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SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY



New York builder buys 1,484 G-E for **3** new

"After looking over the air conditioning market, I picked the new General Electric *Thinline*. It was perfect for the installation I wanted—through the wall without any overhang.

"And the G-E *Thinline* is compact. It only takes two-thirds as much space, but still has as much capacity and efficiency as previous corresponding models. It has powerful exhaust capacity. Every living room and bedroom of the apartments we're building will have a General Electric *Thinline*—which should be very attractive to

tenants. They can choose the temperature, the air flow, pulling in fresh air or getting rid of stale air—all to suit themselves.

"One of the most important reasons I chose the *Thinline* is the General Electric name itself. People have faith in General Electric. So do I. Their products are usually way ahead of the field, soundly engineered and backed by prompt delivery and good service."

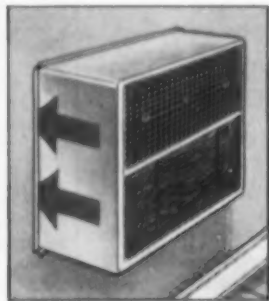
—ALAN P. HOROWITZ,

H. R. H. Construction Corp., New York, N. Y.

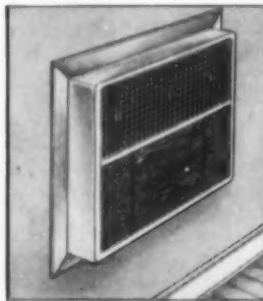
Look how easy it is to install the new General Electric *Thinline* through the wall:



Build the sleeve and frame into the wall during construction. The opening for the sleeve is about 27" wide by 22" high.



Slide the G-E *Thinline* into the sleeve. Four screws hold it in place, give you a quick and weathertight installation.



Simple but decorative wood trim frame adds a final touch. Notice how little this 16½" unit projects into the room.

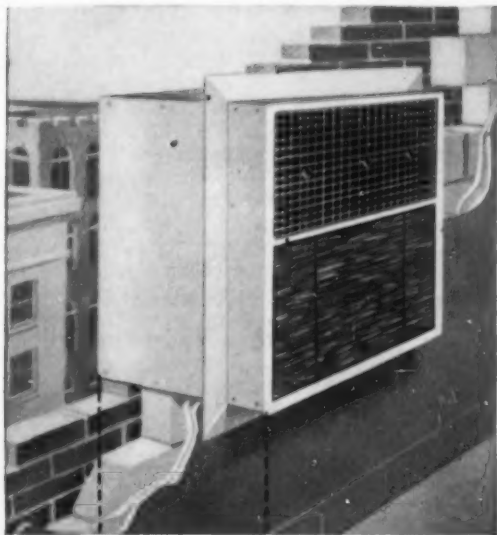


Flush on the outside, the G-E *Thinline's* aluminum grille is designed to hold upkeep down, prevent staining of wall.



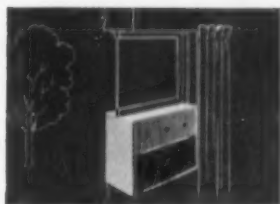
Thinline Room Air Conditioners apartment buildings

**FITS THROUGH THE WALL WITH NO UNSIGHTLY OVERHANG—
OR FITS ANY WINDOW OF PRESENT BUILDINGS**



Only | 16½ | inches thin

There's little, if any, overhang. Operates at low cost (only 7½ amperes for ½-hp. model). New High Power Factor and efficient design give high cooling capacity. Available in ½, ¾ and one horsepower models, all in same size cabinet. Written guarantee. General Electric Company, Appliance Park, Louisville 1, Kentucky.



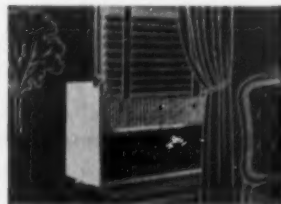
Fits in upper or lower half—
whichever you want—of any conventional double-sash window.



Fits casements, too—and the
window can still be opened and closed, whenever you wish.



All inside—and the windows
can still be raised and lowered for easy cleaning.



All outside—windows work,
and there's still very little projection. It's only 16½" thin!

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INDIANAPOLIS, Ind., ME 5-2587 • LOS ANGELES, Calif., RA 3-3733
ST. LOUIS, Mo., FR 1-1474 • WHITE PLAINS, N. Y., White Plains 6-1354

"... operators want to get
more value out of a driver
—so they put him in a big-
ger truck..."

TRUCKS starts on p. 78

that will chew up heavy trucks at a rate
to make the manufacturer's eyes gleam.
One truck man says that on a really
big road-building job, the life expectancy
of a heavy truck is as little as
six months—compared with six years in
ordinary work.

Another obvious reason for joy
among the big-rig specialists is the ever-
growing use of trucks for hauling goods
over the highway.

But the major reasons for the growth
of the heavies, truck people will tell
you, are these three little-recognized
factors:

Liberalization of state laws. "People
think that states are getting tougher
on truckers," says the sales manager of
one truck factory. "It's not true. In
the past year, many states have
loosened their length and weight laws
so the truckers can now use bigger
trucks than before." Most states permit
an over-all length of 45 ft.; weights
vary too much for generalizations to be
drawn.

Labor contracts. Driver wages—par-
ticularly in the Midwest, where the
trucking business is especially good and
the Teamsters union is especially strong
—have shot up. One man estimates that
the average wage, with fringe benefits,
is now about \$120 a week. As a result,
operators want to get as much value
out of a driver as possible—so they put
him in a bigger truck to move a bigger
payload.

Better performance. Such develop-
ments as automatic transmissions, bet-
ter drive chains, power steering, and
more powerful engines, have enabled
big trucks to have the performance and
handling ease of much smaller vehicles
of a few years ago. So a driver can
handle a bigger vehicle without ex-
cessive fatigue—or so the manufacturers
say.

• **More Economical**—There are also a
number of subsidiary factors linked to
those three.

Operators are finding that the bigger
units are less costly in the long run,
say truck people, because they have
fewer breakdowns, hence less "down
time."

Because such things as automatic
transmissions have been commonly
available on the medium trucks, some
operators have been choosing that cate-
gory even though they often had to
strain the capacity. Now, with the re-
finements being put on the big ve-
hicles, such operators can upgrade



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Looking through chemicals

An amazing 73 billion glass-packed units were sold in this country in 1954 . . . an average of 454 units for each man, woman and child. And today, glass container plants are operating at even greater capacity. Small wonder that demand for soda ash, nitrate of soda, and other glass-making chemicals is at an all-time high.

To anticipate and provide needed chemicals to supply the expanding glass industry, Olin Mathieson has a forward-looking program of *coordinated planning and production*. This assures glass manufacturers of the availability of chemical raw materials regardless

of changing market conditions, new product developments, or requirements for plant expansions.

At present, a growing number of chemical consumers are coordinating their planning and production with Olin Mathieson . . . America's prime producer of basic industrial chemicals. Olin Mathieson's long experience and familiarity with the broad market picture can prove invaluable in *your* planning. Why not consult with us . . . now?

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Methanol • Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Polychlorobenzene • Trichlorophenol • Glycol Ether Solvents

Bob Cousy racks up points while the crowd screams, whistles, shouts!



The crowd roars at All-American Bob Cousy's tricky behind-the-back dribbling... and their din spurs him on to higher and higher scores. But to do *your* best in an office, you need quiet. The hubbub of clicking typewriters, ringing phones, buzzing conversation slows down work and costs you money.

Gold Bond Acoustimetal Ceilings muffle noise. Your office becomes pleasingly quiet. Nerves are rested. Efficiency is increased. Your office looks good, too. And because the perforated metal panels are backed with incombustible pads, they're fireproof. Because they have a baked-enamel finish, they can be kept clean with a damp cloth. Acoustimetal can be repainted without affecting sound absorption. Units are easily removed for quick access to water pipes, electric wires. If you're planning to build or remodel, be sure to include a Gold Bond Acoustimetal ceiling in your plans.

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themselves and, if they can use one big truck to replace two smaller ones, save money besides.

III. Shadow of Chevy

For the makers of heavy trucks, it's a very pretty picture. There's only one dark spot in it, one that may grow much bigger as time goes on.

That's the entrance of Chevrolet into the field. As any low- or medium-priced auto maker could tell the truck builders, Chevy is the toughest kind of competition when it gets rolling.

• **Starting With a Plus**—Moreover, Chevy starts right off in the heavy truck field with a big competitive edge. It has an automatic transmission that is causing mild consternation among heavy truck engineers. Built by Allison Div. of General Motors, the transmission is the first designed exclusively for the big trucks, Chevrolet claims. One of its major features is a retarding device for downhill driving.

GMC has had a beefed-up Hydramatic transmission available for heavy trucks. Ford, on whom Chevy is taking dead aim in the heavy field, hasn't any automatic transmission for its big trucks.

Reports are current that GM is debating whether to let Allison sell its transmission to other heavy truck manufacturers. It most likely will—not necessarily out of compassion for the independents, but because it would be a way to get sufficient volume to reduce the price. Chevrolet is now paying Allison somewhere around \$600 for the transmission.

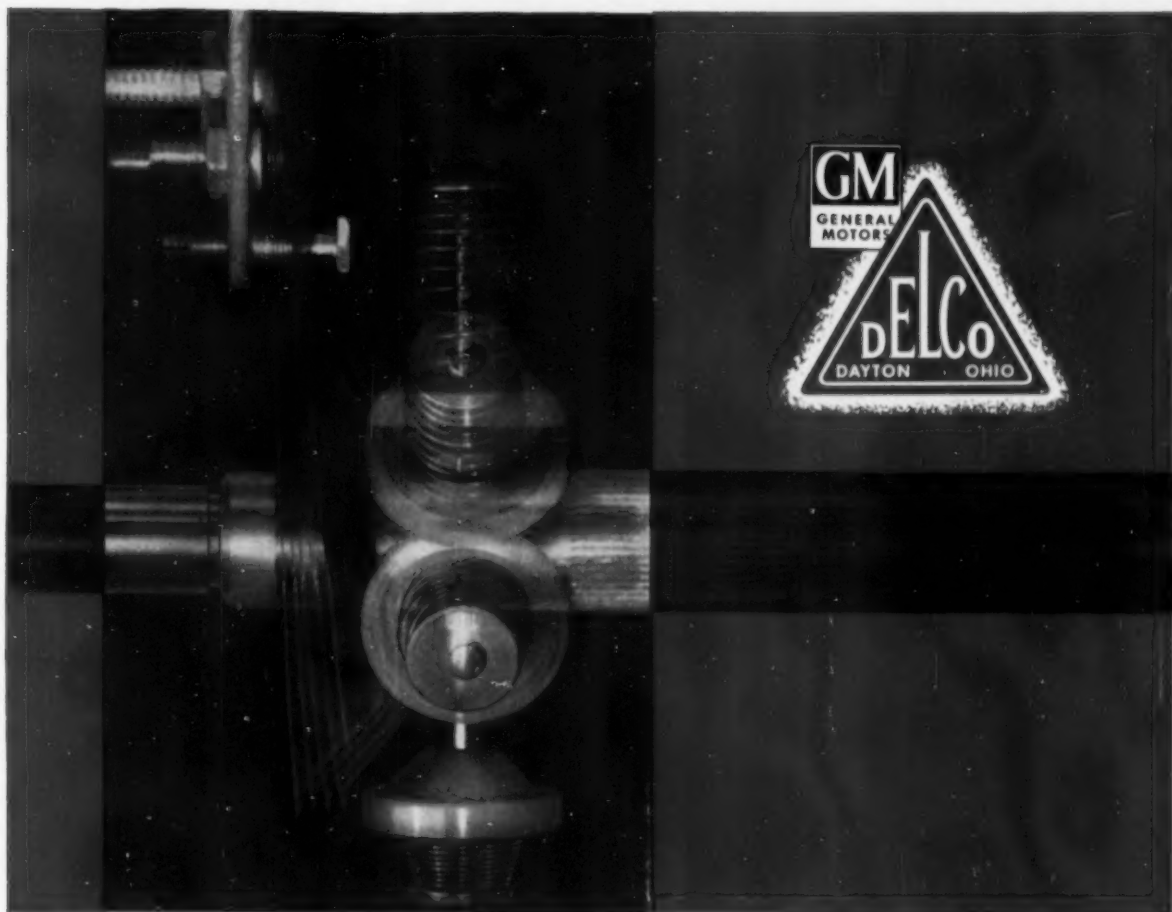
• **How Big a Market?**—Chevrolet got into the heavy truck field both because of the expanding market and because Ford is in it. Ford sells about 25,000 heavy trucks a year—which means to Herman Sattler, Chevy truck manager: "They're working on 13 months of the year, and we're working on 12."

The big question, of course, is whether Reo, White, Mack, and the other smaller producers will get in the line of fire as Chevy guns for Ford. Sattler doesn't think so; neither do other truck men—they're all so optimistic about the size of the future market that they can't see anybody getting really hurt.

IV. The Long, Long Line

P. J. Monaghan, general manager of GMC Truck & Coach, sees a frightening prospect for the average motorist. He predicts 30-million trucks on U.S. highways in 1975—not 20 years away. That's about three times today's truck population.

Short-range, too, truck makers are optimistic. They point to such figures as these: Average age of today's trucks



most UNCOMPLICATED starting switch going ANOTHER EXCLUSIVE FOR DELCO *Electric* MOTORS

That's all! Just three simple parts *snap* open the starting switch on Delco Products FHP Electric Motors. This utter simplicity of action—compared to other switches with as many as 12 parts—means longer switch life, fewer service problems and greater customer satisfaction. And the switch is practically noiseless when starting and stopping.

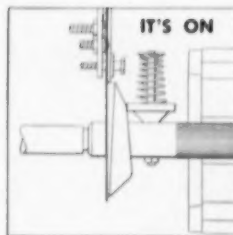
The exclusive Delco Products starting switch has other advantages, too. It acts consistently within a few rpm of the same speed every time—time after time after hundreds of thousands of times. The spindle is self-cleaning so dirt, corrosion or rust cannot interfere with its operation—as they can with conventional designs.



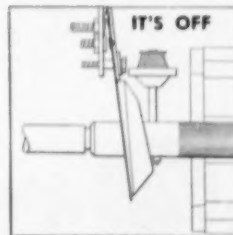
New Delco Electric
Motor 48-frame

This is a sample of the kind of superior engineering that makes Delco electric motors first choice for millions of reliable appliances and machines in homes and factories throughout the world.

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Constantly doing things — better!

is 6 years; average age of heavy-duty trucks is closer to 8 years; about 1.5-million trucks are more than 12 years old.

• **Rationalizing**—Those statements, of course, are comparable to the obsolete-auto statistics that the passenger car people trot out to console themselves when sales slump a bit. But there is perhaps a sounder basis for forecasting in the truck figures: Whereas a 1956 passenger car won't give you any more carrying capacity and offers hardly more fuel economy than a 1948 car, that's not true of trucks.

With labor costs soaring, and much more road mileage to cover, truck operators are finding it uneconomical to rely on obsolescent trucks. The new trucks carry more, carry it cheaper, and operate longer without breakdowns than trucks of a few years back.

That's why the truck people firmly believe that this year they will sell just about as many trucks as they did last year—even though passenger car sales are expected to be off from 12% to 15%.

In 1955, truck registrations totaled 957,000, compared with 829,000 in 1954 (table, page 79).

And truck people still hark back to the standard historical argument: Truck sales follow GNP. This year the economy is expected to rise a few more notches. And, in addition, you have the road program. It will not only put a lot of trucks to work hauling men, materials, and dirt, but as roads are completed, there will be even more room for Phil Monaghan's coming 30-million trucks.

White's for Innocence In Steel Mill Safety

The college freshman beanie has found a new counterpart at U.S. Steel Corp.'s Duquesne works: Workers who have been on the job less than 30 days have to wear white skullguards. All the more experienced workers wear the traditional brown headpiece.

The idea isn't to scorn the newcomer; it's to keep him from cracking his possibly foolish skull. If the neophyte had no distinguishing badge, and wandered too close to some such danger spot as an open hearth after metal had been poured, the veterans might easily assume he knew what he was doing, and so not chase him away. With the white hat, the newcomer can be spotted instantly.

At the Duquesne works, the white-hat rule has been extended to all operations around the mill. U.S. Steel, after a fairly lengthy testing of the rule, says it notes a considerable drop in accidents among newcomers. **END**



the day the Old Man went through the roof

The elevator roof, that is. Seems the Old Man was already late for an important lunch date, and between the sixth and fifth floors the elevator jolted to a sickening stop.

"Get this confounded thing down!" he bellowed at Charlie, the elevator man. Charlie frantically jiggled switches. "Power's gone," he said hollowly, giving the Old Man a wan smile.

"Ye Gods!" exploded the Old Man, or something to that effect, "I'm due at the club in exactly two minutes. Get me out of here!"

It would've been a treat, seeing all 215 pounds of the Old Man being boosted out of that escape hatch by Charlie, who'd tip the scales at about 120 after a big Thanksgiving dinner. Anyway, the wall on the sixth

floor is still singed from the Old Man's language when he climbed out of the shaft.

After lunch, he called me up to his office. To add insult to injury, he'd seen everybody standing around doing nothing—no power. And the Company doc had just phoned him that Mr. Higgins took a bad fall on some unlighted stairs. "Joe," he sputtered, "You put the best blasted cable in the main line that money can buy . . . one that won't fail . . . ever, ever, EVER!"

I didn't bother to tell him that was just what I'd suggested a couple of years ago, when he picked up that "bargain" cable against my advice. Anyway, he sure took my word about it this time . . . ever since that big blow-out, we've standardized on Okonite for all our electrical cables.



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ACCURATE CUSTOM SHEET METAL FABRICATION

- Complete shop facilities... for parts and assemblies of sheet steel, plate and alloys ... up to $\frac{1}{2}$ " thickness.
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**"THEY DID IT
IN ONLY
7 DAYS!"**



On Tuesday a big auto manufacturer called Kennedy's Chicago office: "Can you design and make us a plastic seat cover?" "We can," was the answer, and an hour later a Kennedy engineer was measuring, trimming and fitting at the auto maker's local dealership. Samples and quotations were delivered the following Monday, and the purchase order was issued by return mail.

Kennedy can do anything with paper or plastic... and they can do it fast.

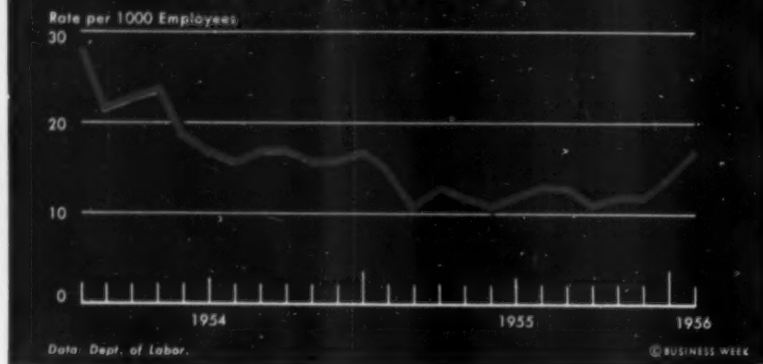
Kennedy

CAR LINER AND BAG CO.

SHELBYVILLE 8, INDIANA
OFFICES IN 15 PRINCIPAL CITIES

CHARTS OF THE WEEK

Factory Layoffs

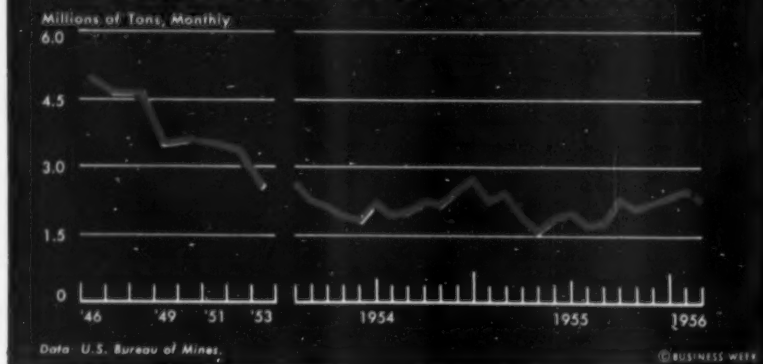


Detroit Sparks a Rise

The factory layoff rate broke out of its normal pattern in January: It increased at a time when it normally decreases (BW-Mar.10'56,p152). In December, the rate was 14 per 1,000 employees. But in January, it was 17 per 1,000—the highest since December, 1954. During

January, the total number of factory employees who left their jobs—through quitting, being fired, or being laid off—exceeded the number who were hired. Behind the pattern-breaking rise in the layoff rate were the production cutbacks in the auto industry.

Anthracite Coal Production



A Long, Steady Sag

Here you see the statistical picture that underlies the steadily spreading slowdown of working life in Pennsylvania's anthracite coalfields. While oil and gas have been taking over larger and larger slices of the home heating market, anthracite has been losing steadily. Last year's anthracite production was less than half what it was 10 years ago, and only one third of what it was in 1929. And so far this year, production is running

about 2% below 1955.

Only in the war years of 1941 to 1944, when fuel oil was being conserved, did anthracite reverse its steady downtrend.

Bituminous coal production is another story. It has staged a comeback in the postwar years (BW-Oct.8'55,p178). Increased demand from electric power utilities, steel producers, and the export market have pushed bituminous production sharply upward.



How to be a "clean desk" man

A new Organized Desk with an ingenious ability to lend a hand to a man at his work

Ever noticed the amount of useless stuff that drifts around on top of a desk? And a lot of desk drawers too are in the same state of clutter.

This condition gets in the way of a lot of work. It's the reason why the new Shaw-Walker Organized Desk is such a big help in getting things done.

Move in behind one of these Organized Desks and

you make a clean sweep of clutter. Your desk top is cleared and *stays* clear. Here's how it's done!

Work Organizer drawer interiors provide specific space for letter trays and all other work and working tools.

Everything is organized for quick finding without hunting. Two revolutionary advances are, drawer space for your wastebasket and telephone.

The 292-page Shaw-Walker "Office Guide" pictures, describes and plainly prices 86 Organized Desks and 5,000 other items. Ask your local representative for a copy, or write Muskegon 61, Mich.

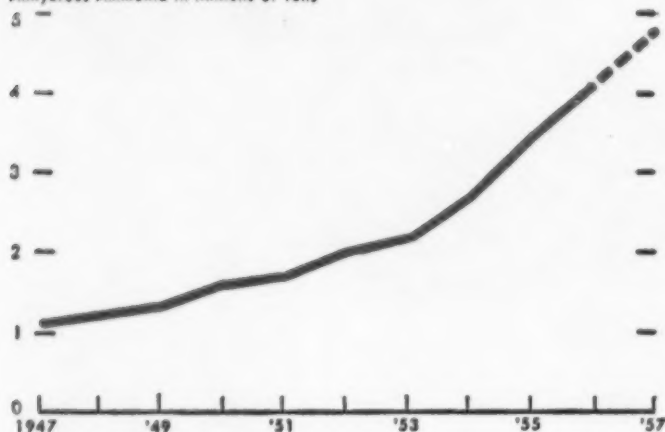


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Soaring Ammonia Capacity...

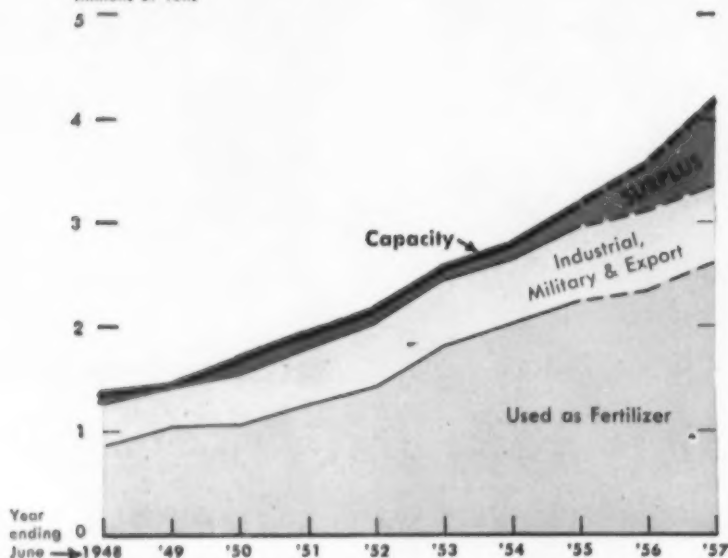
Anhydrous Ammonia in Millions of Tons



Anhydrous ammonia plants began coming in with a rush in 1953. Capacity by now has roughly doubled—and is still going up.

... Builds a Nitrogen Surplus

Millions of Tons



Markets keep growing, but not as fast as capacity. Spencer Chemical Co. forecasts 15% to 20% surplus capacity over the next few years.

Data: Dept. of Commerce; Dept. of Agriculture; BUSINESS WEEK.

©BUSINESS WEEK

Waiting for the Market Now

For years there seemed to be no limit to the amount of ammonia that fertilizer makers and industrial markets needed. Since the war, ammonia producers have expanded their plants over and over without ever catching up with demand—they thought. Now, all of a sudden, they find they have overshot their mark, leaving surpluses on their hands (chart).

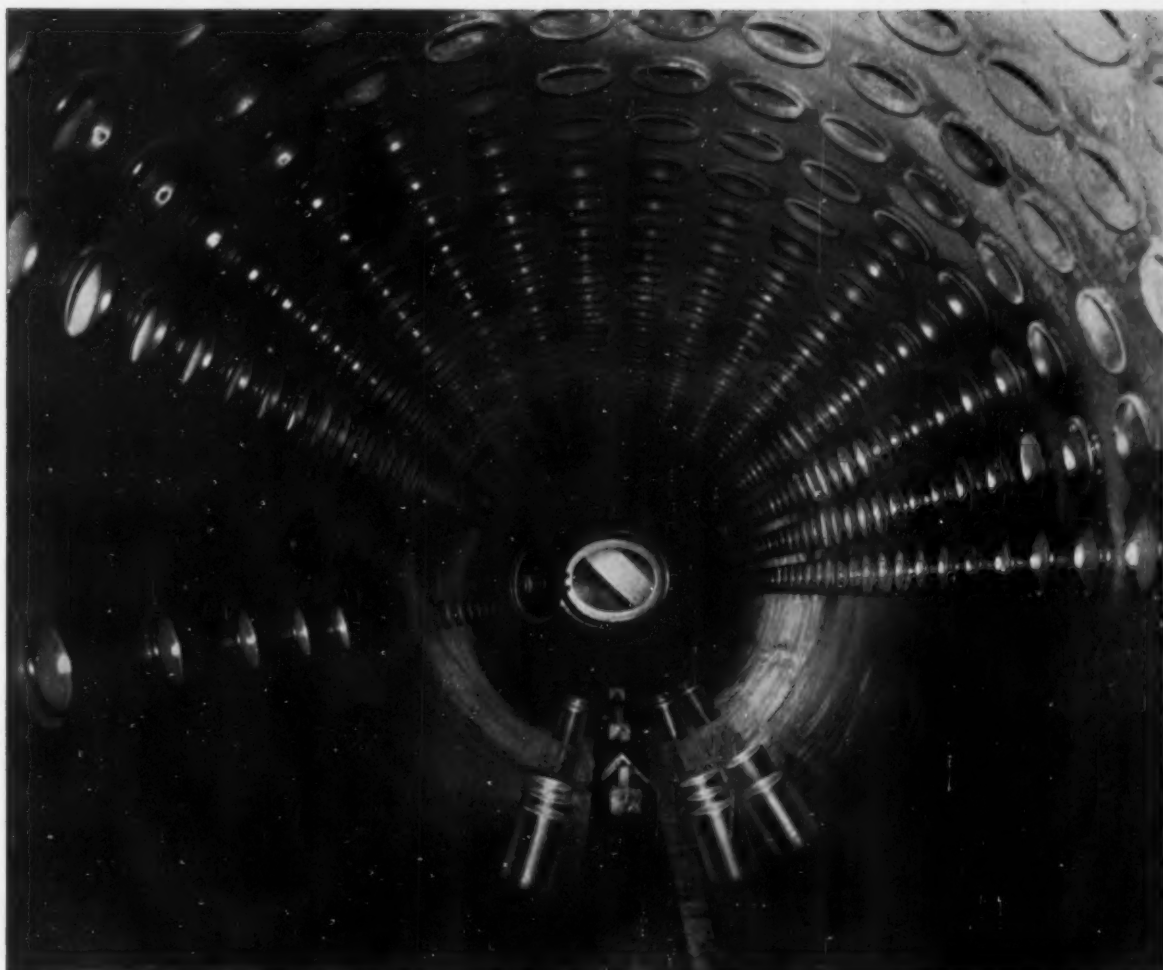
The big market is fertilizers. With a guaranteed price for most of what they could produce and acreage restrictions putting a premium on high yield per acre, farmers have been lavish in putting nitrogen into the soil. And anhydrous ammonia is 82% nitrogen.

The industrial market, too, has been strong. Use of ammonia in explosives, plastics, synthetic fibers, and other

chemical products doesn't account for nearly so much tonnage as fertilizers do, but the field is growing fast.

Altogether, at the end of World War II, the future looked bright for anyone who could make ammonia.

• **Too Much Too Fast**—This promise was borne out from 1945 to about 1953. Production rose steadily as new plants were built and government-



OL' MAN SLUDGE DOESN'T SHOW UP ANY MORE

He used to spend a good portion of his time in the tubes of this boiler. Then, about once a year or so, he'd have to be chased out with acid. But even that didn't seem to discourage him—within a short time, he'd be sneaking back in to start doing business at the same old stand. A very stubborn fellow—and expensive.

But that's all changed now. Ever since treatment with Dearborn 659* started, Ol' Man Sludge has been fighting a hopeless battle. Now, every time he tries to gain entrance to the boiler tubes, 659 reduces him to fluid form so he doesn't get a chance to stick around. Then,

out he goes via the blowdown route.

Of course, Dearborn 659 does more than just condition sludge. Its patented polyamide anti-foam agents improve steam quality, while the catalyzed sodium sulfite ingredient prevents corrosive attack on metal surfaces. In addition, the colloidal action of Dearborn 659 controls scale formation in boiler feedwater lines.

You'll find it will pay you to investigate the many advantages of Dearborn 659. Bulletin 5008-B tells how to clean up on Ol' Man Sludge. May we send you a copy?

*U.S. Pat. No. Re-23085



Dearborn®

FIGHTING CORROSION WHEREVER IT OCCURS

Dearborn Chemical Company, Dept. BW
Merchandise Mart Plaza, Chicago 54, Ill.

Please send me Bulletin 5008-B on Dearborn Formula 659.

Name.....Title.....

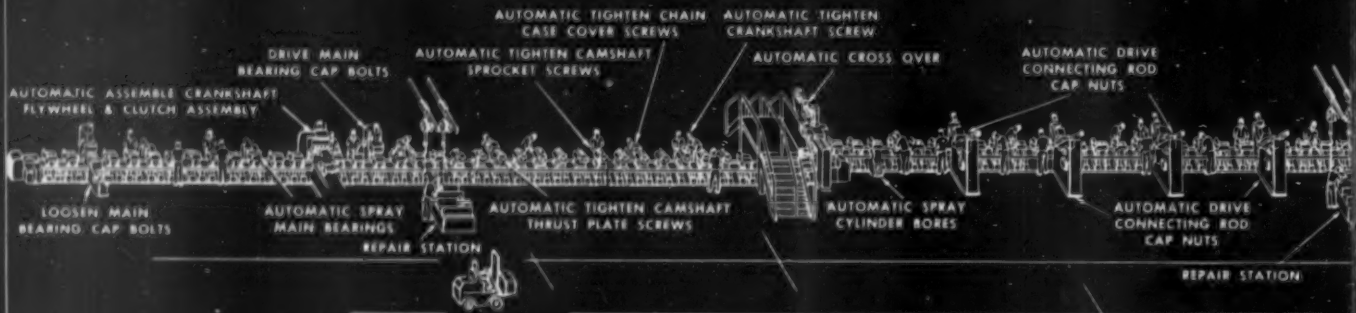
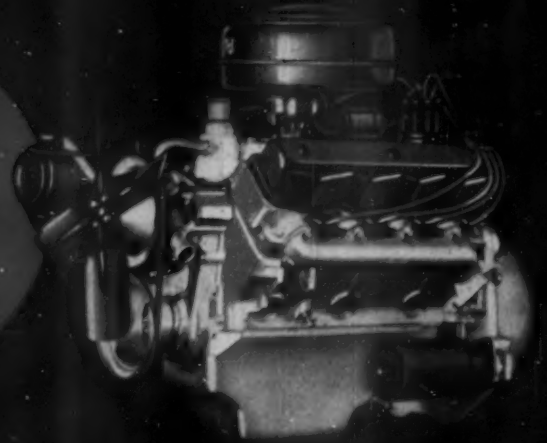
Company.....

Address.....

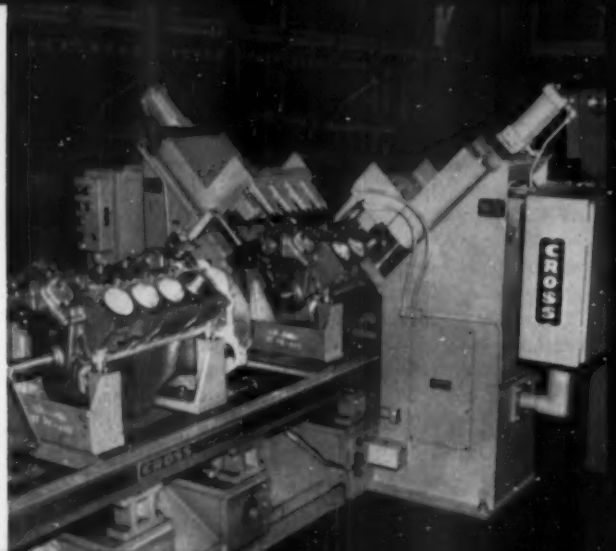
City.....Zone.....State.....

Another Automation First by Cross

Automation for Car Engine Assembly!



Section II, Station 44: engine is transferred to Section III, Station 1, and placed in car position.

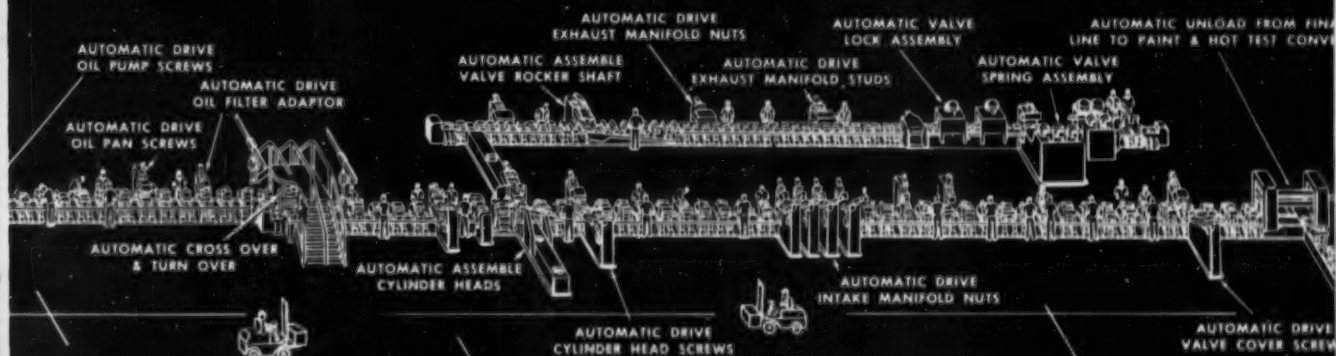
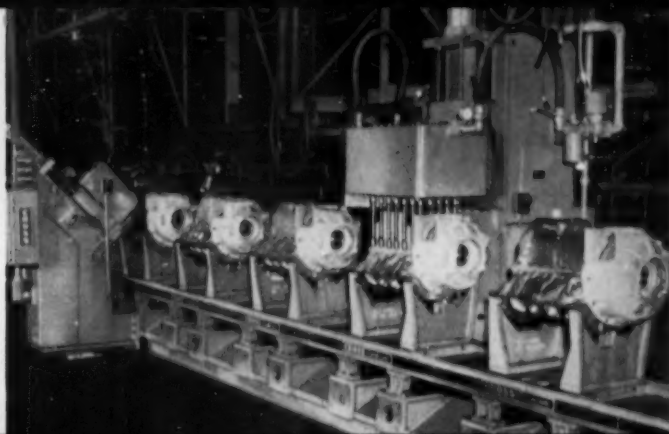


Section III, Station 3: oil is automatically applied to cylinders and valve lifter holes.

Section I, Station 3: bearing cap bolts are automatically loosened ready for crankshaft assembly.



Section II, Station 37: pan screws are automatically tightened, Station 40: oil filter adaptor is assembled.



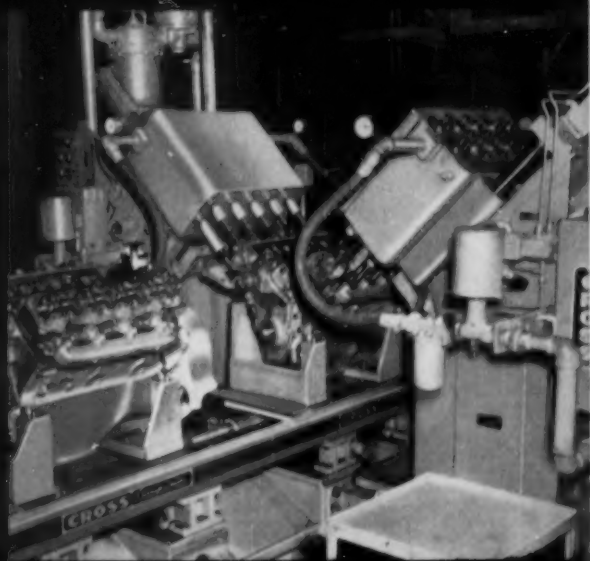
This production line for assembling V-8 car engines consists of three Transfer-matics with a total length of 812 feet. One assembles the engine; the other two (only one shown) assemble the cylinder heads. Operations start at three points with the block and head castings. They are automatically transferred through 198 stations as parts and sub-assemblies are added until the engine is completed and ready for testing.

The rated capacity is 150 engines per hour.

The engine assembly Transfer-matic is sectionized, a feature originated by Cross to reduce downtime. Three sections are provided to permit stopping some operations without interrupting the others.

Modular unit construction provides flexibility for engine changes and for adding new automatic assembly devices of the future.

Like other Cross machines, all parts—even tooling details—are made to interchangeable tolerances for fast, easy maintenance. Other features include construction to JIC standards and automatic lubrication.



Section III, Station 15: cylinder head bolts are tightened to a pre-determined torque.

Established 1898

THE **CROSS** CO.
First in Automation
DETROIT 7, MICHIGAN

"Why was
ALLEN-BRADLEY
 the preferred motor control
 at the Chicago Machine Tool Show?"



Because experience has established its
**ACCURATE, RELIABLE, AND
 TROUBLE-FREE PERFORMANCE**

A survey of the electrical controls—wherever accessible—used with 849 machine tools exhibited at the recent Chicago Machine Tool Show, established the fact that Allen-Bradley motor starters, relays, timing relays, and disconnect switches led all other makes.

Allen-Bradley motor control has gained this position of leadership by its performance... its long life... consistency of action... trouble-free operation. The A-B trademark has come to be recognized as the sign of **QUALITY** in motor control.

Allen-Bradley Co., 1332 S. Second St., Milwaukee 4, Wis.
 In Canada—Allen-Bradley Canada Ltd., Galt, Ont.



**FIRST!
 in Starters—**
 41% of the starters
 were Allen-Bradley.



**FIRST!
 in Relays—**
 46.5% of the relays
 were Allen-Bradley.



FIRST! in Disconnect Switches—
 29.6% of the dis-
 connect switches
 were Allen-Bradley.



**FIRST!
 in Timing Relays—**
 51.7% of the timers
 were Allen-Bradley.

ALLEN-BRADLEY
 QUALITY
MOTOR CONTROL
 The PREFERRED Line



owned war plants went into private operation, but demand rose even faster.

In 1953, the wind shifted. It seemed as if everyone had simultaneously decided to get in on a good thing. New companies, new plants came in with a rush, and production turned sharply upward. From 1953 to last January, ammonia capacity nearly doubled.

Capacity is now more than 4-million tons a year. Six new plants are scheduled to come on stream this year, another half-dozen early next year. They'll add some 800,000 or 850,000 tons to annual capacity. As the chart shows, the market isn't expanding fast enough to absorb all that output.

• **Crisis by 1958**—In the fertilizer business, the nitrogen content of ammonia is the significant figure. Fertilizers take some 70% of the nitrogen that's produced, and most of the nitrogen comes from ammonia.

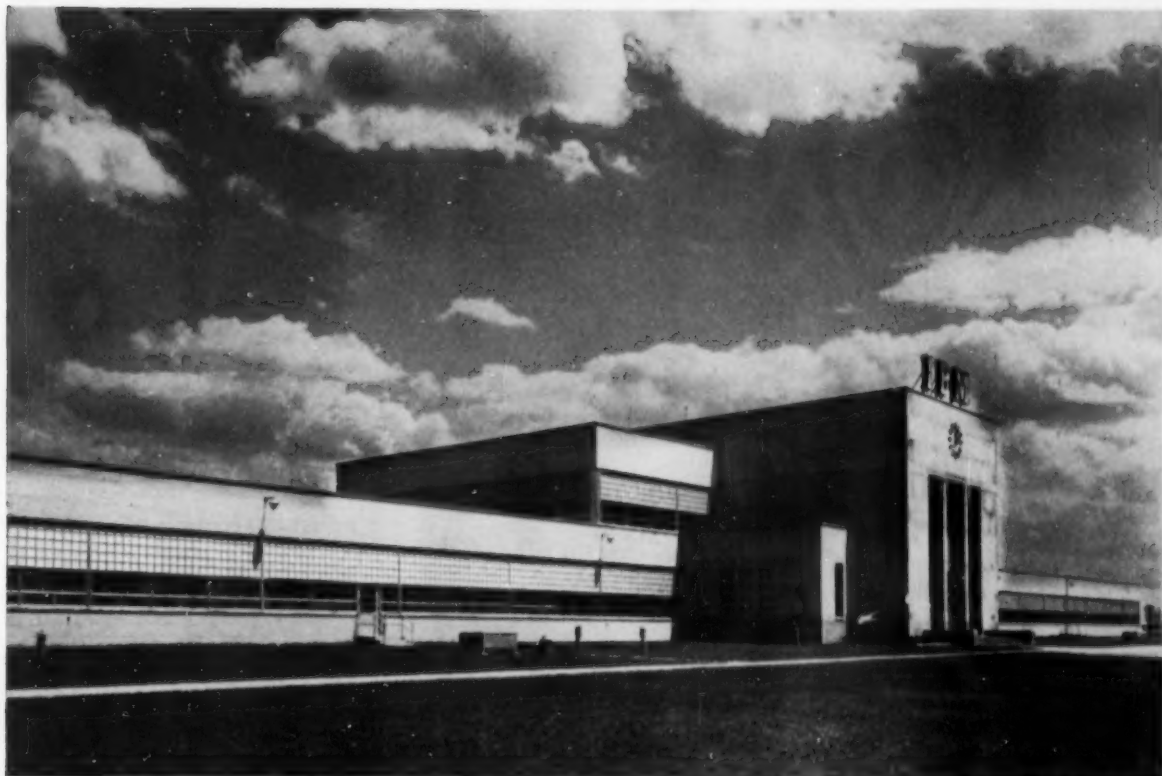
Last year, 2-million tons of nitrogen went into fertilizers. According to the Agriculture Dept., this demand has risen an average 10% a year in recent years. If this rate holds, the fertilizer market for nitrogen will come to around 2.4-million tons by 1958. But if the new anhydrous ammonia plants come through as scheduled, capacity then will be about 4.9-million tons of ammonia—or 4-million tons of nitrogen. Other sources of nitrogen, in fact, will bring total nitrogen capacity to around 4.4-million tons, compared with the anticipated fertilizer demand of 2.4-million.

• **Farm Problem**—Even at its best, fertilizer consumption grows steadily, rather than in sharp jumps. Lately, it hasn't been at its best, and that is adding to worries about surplus.

In the last two crop years, tonnage of fertilizer used has actually declined—because of drought and a drop in farm income—and experts estimate that it will go down again this year. This hasn't meant a corresponding drop in the amount of nitrogen used—fertilizers have tended toward higher concentrations of nitrogen—but there's real doubt that demand can maintain the average 10% annual gain that the Agriculture Dept. looks for.

A great deal depends on farm legislation. If the soil bank provisions go through, as seems likely, farmers will have more money to spend and smaller amounts of producing land to spend it on; fertilizer use on the remaining acreage will almost undoubtedly go up, especially if the program should include payments for fertilizing unused land.

• **The Other Market**—Industrial uses and explosives for the military currently take roughly 20% of the nitrogen supply, or some 600,000 tons. This will grow—especially if business stays at a high level. There are a number of



International Business Machines Corporation, Greencastle, Indiana
Engineers and Architects: Giffels & Vallet, Inc., L. Rossetti, Detroit, Michigan

IBM benefits 4 ways with PC Glass Block Panels

- *Controlled daylighting*
- *Reduced heating and cooling costs*
- *Elimination of sash maintenance costs*
- *Minimum washing contract costs*

IBM and its architects were well aware that the intricate production jobs handled at this plant would require plenty of daylight. But it had to be the right kind of daylight—controlled and glare-free. Insulation value of the window areas was another consideration—ordinary windows in a continuous band 8½ feet high *could* throw an excessive and costly load on the heating and air conditioning systems. And what about maintenance and washing? Costs for these items *could* jump way out of line unless steps were taken to remove the causes of these headaches.

This planning led to the use of PC *light-directing* Glass Block panels, footed by a double-glazed vision

strip. The blocks, *mortared* into five-foot high panels, bring in controlled daylight that helps workers see better. Insulation value of the glass blocks (equal to that of an 8-inch masonry wall) reduces heating and cooling costs. And because there is nothing to rust or rot, the glass block panels are maintenance-free. A twice-a-year washing is all that's necessary.

For new construction or modernization, you'll find it profitable to investigate the advantages of PC Glass Blocks. For more information, see us in Sweet's, or write Pittsburgh Corning Corporation, Dept. G-36, One Gateway Center, Pittsburgh 22, Pa. In Canada: 57 Bloor Street West, Toronto, Ontario.

PC Glass Blocks
mean better
looks outside—
better light
inside.



PC Glass Blocks



Also manufacturers of FOAMGLAS® insulation

WE'RE PROUD OF PLANT 4



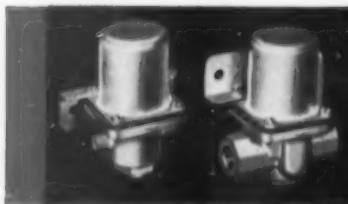
We're proud of new plant 4—not because it's big, but because it represents growth. It symbolizes the faith of progressive manufacturers who demand McQuay-Norris electrically operated controls to meet their own standards of perfection. We can meet your exacting specifications as well.



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**20 MM ELECTRIC TRIGGERS
AND SOLENOIDS**



McQUAY-NORRIS
MANUFACTURING COMPANY

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46 YEARS IN THE MANUFACTURE OF PRECISION PRODUCTS

bright new uses coming in—in plastics (American Cyanamid Co., for example, is developing a completely new series of nitrogen-containing plastics, called triazines), in pulp for paper-making, in metallurgy.

But even if industrial demand should go up by one-third in the next two years, it would still come to only an additional 200,000 tons, which wouldn't help much with the surplus.

Exports, only a very small part of the total, will probably decline by 1958. They've been going strong, but mainly because they are financed by the government as part of the foreign aid program. Many countries getting the aid are building ammonia and fertilizer plants of their own.

• **Bearish View**—Spencer Chemical Co. forecasts a 15% to 20% surplus in plant capacity over the next few years. Kenneth A. Spencer, company president, has been sounding the surplus alarm for some time; last month he told a meeting of the New York Society of Security Analysts that he couldn't understand why some "very good companies" are still building additional capacity. "I hope they are in possession of some bullish information which is not available to us" he said.

Some of these "very good companies" however, feel that Spencer is too bearish, both on the size of the surplus and its implications. Though they know ammonia will be plentiful—and most expect increasing pressure on prices—they point out that even a 20% surplus in capacity doesn't mean a 20% surplus in production. It means that producers, on the average, will cut back to somewhere around 80% of capacity for the year.

They say that this kind of thing is about standard for chemicals, that the industry traditionally operates by taking a big jump in capacity, waiting for the market to catch up, then taking another jump forward.

• **The Need**—Depending on what happens to fertilizers, the market, in this case, will probably catch up by 1960. Beyond that, however, both production and market still have plenty of room to grow.

The combination of increasing population and, as cities grow, less land available for farming makes it inevitable that fertilizer use will rise steadily. Soil depletion is going on at a rate that calls for adding more than 6.5-million tons of nitrogen a year just to stay even. And the industrial market is growing.

In all, Chemical Engineering, a McGraw-Hill publication, sees consumption of "at least" 6-million to 10-million tons of nitrogen a year—the equivalent of from 7-million to 12-million tons of ammonia—before the market matures. **END**

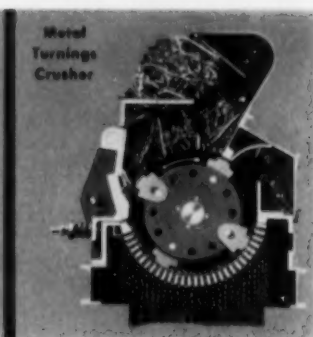
What's new in MECHANIZATION?



Uncrushed Turnings



Bulk reduced 80 to 90%



Metal
Turnings
Crusher

Tangled, raw metal turnings constitute a serious disposal problem for the metalworking plant. They are difficult and hazardous to handle. They take three times the space of crushed turnings to store and transport. Jeffrey crushers

reduce metal turnings, gaining these benefits: scrap brings a higher price—handling, storage and shipping are simplified—oil and cutting compounds are easier to reclaim. Your salvage department becomes more profitable.



Do it yourself: Engineering and selection of vibrating conveyor equipment by your own plant men became possible when Jeffrey's LMV conveyors were announced. Made and stocked in standard 12-foot lengths and 5" to 24" widths. Comparative data on conveyability of various materials, charts for determining proper dimensions, and installation instructions are all that are needed to put an LMV to work for you.

Renewable rim sprockets, a big money-saver in many industries, are especially suited for use in the handling of abrasive materials. Rims are made of stellite or other wear-resistant materials, so they offer long life under difficult conditions. Replacement of worn rims can be done quickly, reducing equipment downtime.



Car loading made easy: Filled drums are pulled along this shipping platform by Jeffrey chain, which rides just high enough to catch the edge of a drum. At the far end, drums coast out of the plant on a gravity conveyor and a stop positions them on the chain and roller conveyor. Only at the car door is manpower required.

We can help you with modern, efficient equipment for Materials Handling • Chain Applications • Materials Reduction • Processing • Sanitation • Mining . . . and with a contract engineering-manufacturing service for your products. Jeffrey guarantees your enthusiasm!



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In Commodities

• • •

Oilmen Prospect in Sierra Madres

For Continent's Biggest Tin Deposit

Three Texas oilmen have uncovered a big—possibly a major—tin deposit in Mexico.

The deposit is 30 miles northwest of Durango, high in the Sierra Madres. Reserves—the crucial question—are still unknown, but may well top 1-million tons—which would make it by far the biggest known deposit in North America. Check samples of the ore have assayed out to 1.5% to 5% tin. The Bolivian deposits, for comparison, originally averaged from 2.5% to 4% tin, but the cream has long since been skimmed off. Bolivian ore now averages around 1.4%.

The three Texans—Thomas Patten, N. H. Marr, and John S. Ivy—are financing the entire operation themselves. No stock has been offered nor, they say, will any be offered, to the public. Late this month, they will start operating a 40-ton-a-day pilot mill to process the ore. If reserves justify, they plan to build a 500-ton-a-day mill.

• • •

High-Quality, Low Quantity Tobacco Crop

Brings Record Auction Prices for Burley

The auction season on burley tobacco has closed with a bang.

Average prices in the eight tobacco-growing states were the highest on record; for some grades they were more than double last year. Two factors combined to bring the excellent prices:

- The crop was one of the highest in quality ever produced.
- It was also the smallest in 12 years—mainly because growing surpluses forced a 23% acreage cut last year (BW—Apr. 9 '55, p182).

Until a few weeks ago, Washington was talking about cutting acreage still further, but it has given up the idea. Latest estimates put this year's crop even lower than last year's. Though there are still large stocks overhanging the market, they're being worked down, and tobacco men hope they'll be back to normal within two years.

• • •

Coffee Takes a Second Look

Discovers It's in Tight Supply

In coffee, there are always grounds for trouble of one kind or another.

Just two or three months ago, the talk was of surpluses, and all the coffee news concerned how producing countries could keep prices from falling through the floor.

Now it turns out that the surpluses are in the wrong kinds of coffee. Mainly, they're in Brazilian coffees in the lower grades—which don't have too much demand in the U.S. anyhow. For their high-quality vacuum packed blends, roasters need a substantial proportion of the mild beans from Colombia and Central America—these, mainly because of the heavy rains late

Through sun ...
rain ...
sleet ...
slush ...
snow ...
ice ...



plates of **Kodapak Sheet** stand up—year after year!



Where weather resistance is required, it pays to choose Kodapak Sheet—just as farsighted local Civil Defense authorities are doing for identification plates.

Why? Because Kodapak has the chemical properties needed to withstand the corrosive effects of salt spray, temperature changes, exposure to strong sunlight or pelting rain. And with these chemical properties goes remarkable physical strength.

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For full information, call our representative or write:

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What next?

Street signs? Outdoor displays? Windows and port covers? And why not even your own state's license plates? Just name your project and our representatives will help you work it out.



Kodapak is a trademark



Surest way to "Top" c

It's Summer, 1953. You're a consulting engineer and you're at a portland cement plant, deep in the rugged Northwest. Your assignment: To design a system for moving crushed limestone from a proposed quarry, atop the adjacent mountain, a mile downhill to the mill.

An aerial tramway had been used to haul the stone from another quarry on the opposing slope. But you have been told its capacity was too limited and it suffered frequent operating stoppages. You have also been told to eliminate these problems.

In the months that follow, you investigate all types of haulage. You gather information from far and wide, including many interesting figures on conveyor belts supplied by the G.T.M.—Goodyear Technical Man. Finally you settle on a "rubber railroad" as the best answer to the tough service,

rough terrain and severe winters.

You proceed with your plans, providing for surge piles, between the main belts, to insure an unbroken stream of stone in case of accident or other stoppage at the quarry. The G.T.M. assists you with experienced suggestions on the belts, the drives and the braking and power generating systems. The company approves and by June, 1954, the system is at work.

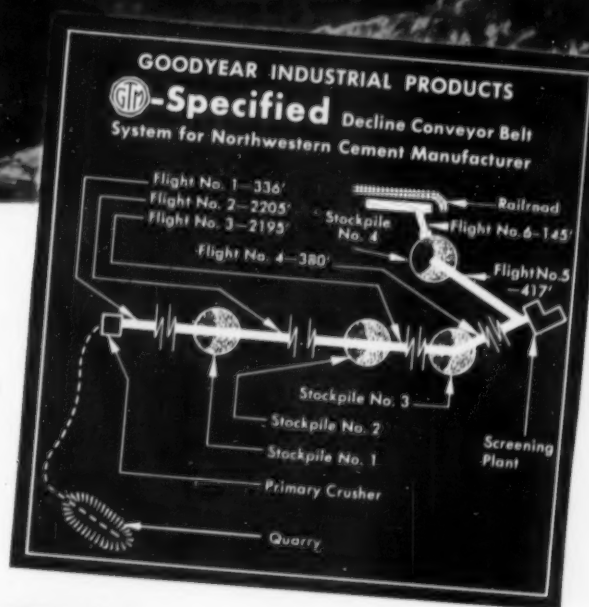
At first, you're naturally concerned. But as time rolls by and the belts roll on, your worry subsides. *After more than 18 months' operation*, the special high-tensile rayon reinforced belts recommended by the G.T.M. have carried over *four times the tonnage* realized from the old tramway with *virtually no maintenance*—and at much lower cost. You and the company are more than satisfied.



a mountain

Among the many things you gain from this assignment is a full appreciation of the economies of conveyerization and the ability of the G.T.M. to answer many problems with industrial rubber. You also learn his experience is always available through your Goodyear Distributor or Goodyear, Industrial Products Division, Akron 16, Ohio.

IT'S SMART TO DO BUSINESS with your Goodyear Distributor. He can give you fast, dependable service on Hose, V-Belts, Flat Belts and many other industrial rubber and nonrubber supplies. Look for him in the Yellow Pages under "Rubber Goods" or "Rubber Products."



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last year, are in very tight supply.

So green coffee prices have been spiraling up again. Colombians are 9¢ to 11¢ a lb. above their December average, and Central American coffees are up about the same. Brazils also are higher—by 3¢ or 4¢ a lb.—partly in sympathy, partly because of estimates of a lower crop next year.

And retail prices, after the latest round of increases, are up to \$1.09 a lb. for most vacuum packed brands.

Last week, roasters were cutting their buying, while they waited to see how the housewife would react to that \$1.09 a lb. Consumption was just beginning to recover from the effects of the previous rise to over \$1 a lb.; roastings last year were well above 1954, but still under the 1952 and 1953 levels.

• • •

Commodities Briefs

An electrorefining process for getting high-purity titanium metal from scrap—something that has so far been impossible—is being developed by the Bureau of Mines. Researchers say that, though their method is still experimental, it seems “highly practicable”; more than 70% of the metal produced so far is premium grade, and some of it contains fewer impurities than the best so-called “pure” titanium.

Zinc sales stay at a high level, but American Zinc Institute figures show unfilled orders at the end of February at their lowest level since November, 1954. Shipments to the government stockpile also increased somewhat; they were at their highest since last July.

Texas Eastern Transmission Co.'s plan to switch its Little Inch pipeline from carrying natural gas to carrying oil products is still up in the air. The Federal Power Commission had approved, but last week the U.S. Court of Appeals ruled that FPC hadn't given enough consideration to the effect the conversion might have on competing barge operators who carry oil products.

New source of uranium: Ohio Oil Co. is experimenting with extracting uranium from the uraniferous lignite ores of North and South Dakota. Atomic Energy Commission has offered to buy the concentrates if pilot plant researches are successful.



HYDRAULIC MUSCLES FOR DUMP TRUCKS

Gar Wood's way to bigger payloads!

Remember when unloading was a slow and costly job with shovel and wheelbarrow? Then, the size of a payload was limited by the biceps of the man who had to handle it! In 1912, Gar Wood changed all that with the world's first hydraulic hoist for trucks.

For the past 44 years, Gar Wood and its St. Paul Hydraulic Hoist Division have been the world's leaders in truck equipment design and manufacture. Today, the combined Gar Wood-St. Paul line offers modern hoists for every application. Contractors can dump 30-ton payloads just by touching a lever . . . farmers can unload everything from cash crops to farm supplies faster and easier . . . factories can handle bulk materials at far less cost.

To handle these jobs and many others, you can choose from Gar Wood-St. Paul standard-duty, heavy-duty, extra-heavy-duty, conversion, telescopic and direct-lift hoists. All are engineered for smooth, trouble-free operation and easy maintenance. Matching truck bodies are also available to meet a wide range of requirements.

For data that explains how Gar Wood-St. Paul hoists and bodies can give you lower net cost per payload hour, write to: Customer Service Department, Gar Wood Industries, Inc., Wayne 2, Michigan.

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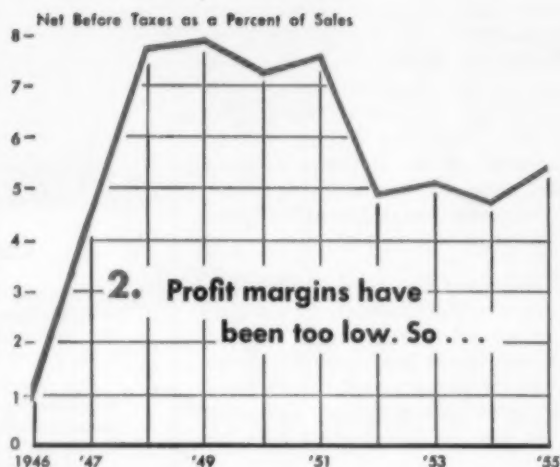
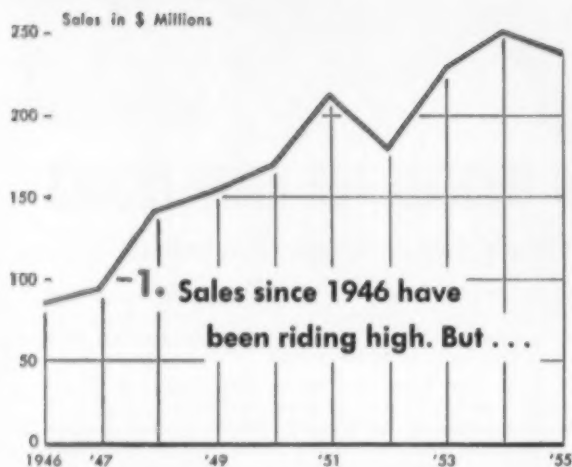
Gar Wood
Land-Fillers



MANAGEMENT

A. O. Smith In Profits Chase

The big Milwaukee auto frame maker, guided by Lloyd B. Smith and F. Shepard Cornell (left), isn't abandoning its traditional field. But it's going into consumer durables in a big way—for fatter profits by 1970.

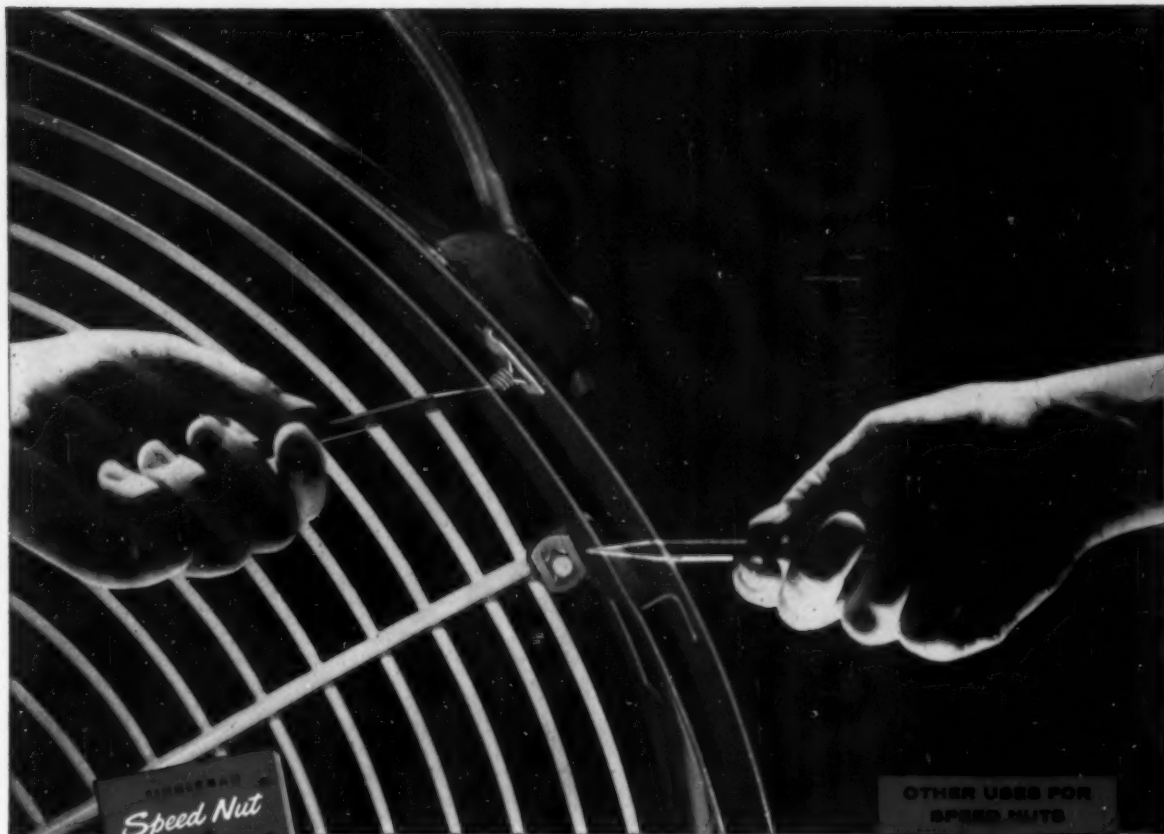


3. New products like this beer tank, are being added. Others: a silo and a smokestack.

This summer the gas industry will give gas-fired air conditioning its first big promotion push (BW—Oct. 8 '55, p84). And when it does, there's a good chance one of the air conditioners you'll find in retailers' display rooms will carry the trademark of a company that's best known as an auto frame maker.

The company is A. O. Smith Corp., Milwaukee, and its entrance into the air-conditioning field is a well-calculated move. It's one more step in Smith's postwar drive to decrease its reliance on products whose sales are controlled not by efforts of its own management, but chiefly by the sales of customers such as the auto industry.

• **Drive for Diversification**—Actually, Smith's drive to diversify goes back before World War II. But today it looks



37% cost saving in production, 28% saving on assembly with Tinnerman SPEED NUTS®!

It takes only 5 Tinnerman SPEED NUTS to cut costs on the Atlas-Aire Utility Fan, manufactured by the Atlas Tool and Manufacturing Company, St. Louis.

Two "J" Type SPEED NUTS make a lightning-fast, vibrationproof attachment of carrying handle to fan housing. Three Push-On SPEED NUTS firmly secure the grill to the housing.

Twelve parts were eliminated to bring about a 37% cost saving; total assembly time has been reduced from 25 to 18 minutes to effect a 28% time saving. The elimination of a spot welding operation and a punch press also resulted in a better use of over 400 square feet of floor space!

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as though the company is about to take its most significant strides in that direction. What's more, its management, after several years of rejiggering, is now shaped for this job.

For the next few years, A. O. Smith's future is being charted by the two-man team of Lloyd B. Smith, 35, president since 1951, and F. Shepard Cornell, 53, who became executive vice-president a few months ago (cover). And they have specific goals set for themselves as far ahead as 1970.

They have been pushing hard for (1) more stability in the production and sale of the company's products and (2) better-looking profit margins.

• **Solid Sales, Low Profits**—There has been nothing skimpy about the company's sales performance, as a look at the chart on page 104 will show you. Its volume of \$237-million in 1955 was six times what it was in 1946. And so far this year sales are running ahead of 1955.

But profit margins are something else again. They have actually slipped in the past few years. Even at their best, they didn't make a very impressive showing when compared to those of many other manufacturing companies. In the last 10 years, net income before taxes hasn't topped 8% of sales. After taxes, it was only 2.5% in 1955. Even when you take into account Smith's heavy depreciation charges, which run at about \$4-million a year now, the 2.5% figure puts this heavy manufacturing company into a class with such low earners as meat-packers.

• **The Targets**—The targets Smith and Cornell are setting their sights on for 1970 are bigger profit margins and bigger sales, too. Although they haven't given out a figure on hoped-for profits in 15 years, it is safe to say the minimum acceptable is 10% net before taxes. And they estimate sales, conservatively, at \$400-million by 1970.

One factor in achieving these goals is a better product mix—more products the company can push on its own. Now, with auto business still 35% of the total, Smith has brought the percent of products whose sales it can control to 40%, while 60% are uncontrollable. By 1970 the company figures auto business will contribute only 20% of total sales, and there will be a 50% split between uncontrolled and controlled products.

• **Management Changes**—Management changes at A. O. Smith partly reflect the company's new outlook. Outsiders have been placed on the board of directors. And Cornell was pulled up from vice-president and general manager to his present post. Newcomers on the board include Rawleigh Warner, chairman of the Pure Oil Co., and Arthur D. Hyde, a top executive of General Mills. The company is casting

around for a third outsider for the board, and he probably will come from the East.

I. The Old Line

Traditionally, A. O. Smith's line consisted of auto frames and other equipment, pressure vessels for the processing industries, and big diameter line pipe.

There is a lot to be said for that kind of business. Auto orders mean long production runs that, at least in the postwar period, have been pretty steady. A. O. Smith has no intention of giving up its share. (The company makes 40% of the auto industry's frames.) These mass production orders enabled the company, under its late engineer-president, L. R. Smith, to establish what must have been the first automated production line back in 1921. The plant had a daily capacity of 10,000 frames and is still cranking them out.

The elder Smith, Lloyd Smith's father, also applied much the same production techniques seven years later to making big diameter pipe for natural gas transmission lines.

• **Drawbacks**—But for all its advantages, there are dangers in this kind of business. For one thing, Smith learned the hard way in the Depression that you're at the mercy of your customers' markets.

Even when business is booming, the automotive supplier can find the going rough. For one thing, the business ordinarily has a low profit margin. It takes piles of capital and a high level of production to make much money. And it is the kind of business where production scheduling and sales volume are pretty much determined by the customer and not yourself. That's why Smith's management calls it uncontrollable.

Making auto frames calls for hair-line timing, near-perfect planning. That consumes a great deal of management attention, yet doesn't pay off so much as the same effort would in other lines.

When a Detroit auto maker orders a run of frames from Smith, for instance, the deal doesn't end there. The starts and stops of the Detroit's assembly operations are imposed on Smith's frame-making plants.

• **Guessing Game**—Say one auto company keeps ordering frames and goes right on building at a time when the others are cutting back. Obviously, this car maker is loading its dealers. So Smith must stay a couple of jumps ahead of him. That means anticipating a cutback in orders—but without any helpful tipoff from Detroit. By building inventory and then shutting down this customer's production run before orders are cutback, Smith can utilize its production facilities more evenly.

But, in the long run, a lot of man-



"After a 1½-year survey, we decided to establish our western headquarters in MOA"

An interview with B. B. Klopfer,
Vice President, Pacific Division

THE STANDARD REGISTER COMPANY

Q. Mr. Klopfer, what was the principal reason Standard Register chose the Metropolitan Oakland Area—Alameda County—as the center of its western operations?

Mr. Klopfer: First and foremost, it was a matter of proximity. We are one of the world's largest producers of continuous, marginally punched forms. Some of our best customers had already built branch plants in the West—so we wanted to be where we could give them on-the-spot service. We found we could provide the fastest service by locating in Alameda County, transportation hub of the 11 western states.

Q. Did you have any other reasons for your choice of Alameda County?

Mr. Klopfer: Many others. We spent 1½ years on a preliminary survey of western plant sites and learned that Alameda County rated particularly high in regard to labor. The great majority of the people out here own their own homes. It is recognized that the home-owning employee is the best employee.



Q. Wasn't the electronic side of your business another factor in your decision?

Mr. Klopfer: Most decidedly. Our Engineering Division maintains close contact with the electronics industry, which is centered in the Bay Area.

Q. How about the raw materials that Standard Register needs? Are they readily available?

Mr. Klopfer: We get fast delivery on the paper we require from the nearby Northwest . . . immediate delivery on packaging, inks, printing supplies and all other materials.

Q. Now we come to the weather.

Mr. Klopfer: Ideal. Not only for living and working, but for the actual manufacture of our products. Extreme variations in humidity and temperature make it very difficult to control the precision cutting and printing of mile-long rolls of paper. Alameda County's easy-going climate eliminates this problem.

Q. What has the sales picture been



since the establishment of your western headquarters?

Mr. Klopfer: It is still too soon to release any definite figures. But I can say this much. Overall company production is up 15% over last year. Out here it's up 30%.

Q. One final question, Mr. Klopfer. What words of advice do you have for other businessmen looking for western plant sites?

Mr. Klopfer: I will only say that locating in Alameda County was just about the smartest—and most profitable—move that Standard Register ever made. I am certain there is no finer location for business in the West.

Governments Create a Friendly "Climate"

Those who operate branch plants in MOA never fail to comment on the friendly climate governments have created for industry.

This is no matter of chance. It reflects universal recognition by County and City officials of the importance of industry to the economic well-being of this area.

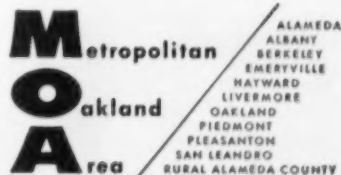
Every year since 1936, the Alameda County Board of Supervisors and the Oakland City Council have appropriated funds to invite industry to locate in this area. Each year, these officials and the officials of other communities within the county, have taken steps necessary to improve our "product" and make it more attractive to industry.

These steps have taken many forms. Sewer and other improvement bonds have been voted. Wise zoning laws have been adopted. Police and fire protection have been extended ahead of demand.

Like our "weather climate" the climate of government is unchanging—warm, friendly, non-partisan,—combining with other advantages to help industries "grow places" in MOA.

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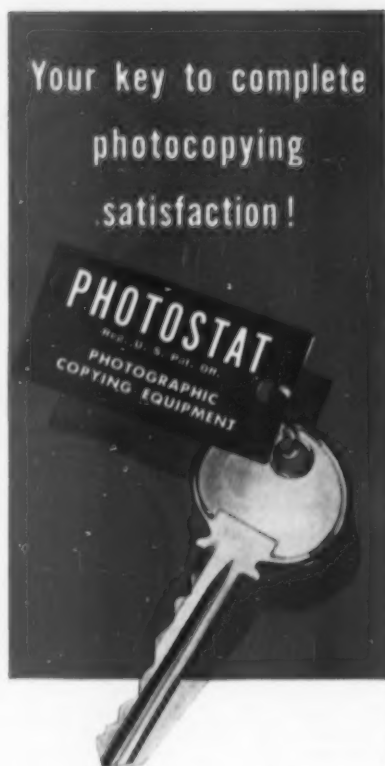
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" . . . in a way, A. O. Smith is a junior version of the postwar Ford story . . . "

STORY starts on p. 104

agement talent is burned up trying to outguess the needs of a good customer. It is manhours that don't directly contribute to sales.

This guesswork gets pretty complicated, too. Smith did build a plant in Illinois exclusively for Chevrolet frames, but it couldn't possibly have separate production lines for every car—Oldsmobile, Pontiac, Buick, Chrysler, Packard. The capital investment would be prohibitive.

So, at its Milwaukee plant, Smith has to juggle its production by cycles, allotting a certain period for each customer's frames. At the same time, it must maintain daily shipments pretty well geared to the daily output of the car manufacturers.

- **Steel Problem**—Turning out auto frames and pipes has presented Smith with another perennial problem—getting enough steel. It once bought some land (and still owns it) to build an integrated mill on its own, but the plan fell through. Just recently, Smith reportedly had to turn down a long-term order for producing frames—no steel.

It's no wonder, then, that even with auto business booming the two-man management team of Smith and Cornell is putting more emphasis than ever before on products outside its old line. The gas air conditioner is an example. A big hunk of \$50-million Smith will spend over the next four years will go toward boosting capacity 50% at its consumer durables plant in Kankakee, Ill., by the end of this year.

II. New Products

But in shifting to products with markets which it can control by its own sales effort, the company has been smart enough to carry over two manufacturing methods that are now almost basic to the new line. One is its ability to work with sheet steel at a big volume.

- **Important Technique**—The other is its developments in coating steel with glass-like or ceramic compounds. In the beginning the technique was a flop. The idea was to glass coat the line pipe before shipment, thus cut the weight and cost of conventional packing. But the savings were so marginal it wasn't worth it.

Since then, however, the technique has worked like a charm on nearly every new product. The upshot is the company's Permaglas Div.

- **First, Water Heaters**—The first product, of course, was the water heater. In 1940, with Depression experience fresh in its memory, Smith latched on to

water heaters. But World War II cut short production plans. When Smith's heaters did hit the market after the war, there were just 35 heater manufacturers. Now there are 135, and many of them have copied the glass lining idea. But Smith's share of a market it helped develop is still a hefty 17%, with a good customer in Sears, Roebuck's private brand business.

Now Smith is ready with more products. Already the glass-lined giant beer tanks have become almost standard items in breweries.

Ready to market, with big possibilities once Smith gets its distributors lined up, is the Harvestore, a glass-lined silo. Sales will be pushed to farmers and the food processing industries.

- **Now, Smokestacks**—Next, but still in swaddling, is a glass-lined smokestack. This looks exciting, too. Company researchers have found that industry, because of corrosion, replaces 5,000 smokestacks a year. Add new construction and you get a big potential for a big ticket item.

It's this burgeoning of the glass-lined business that makes management pretty sure it can meet its 1970 goals. Percentage of its sales from products in this line are expected to double by 1970.

III. Management Changes

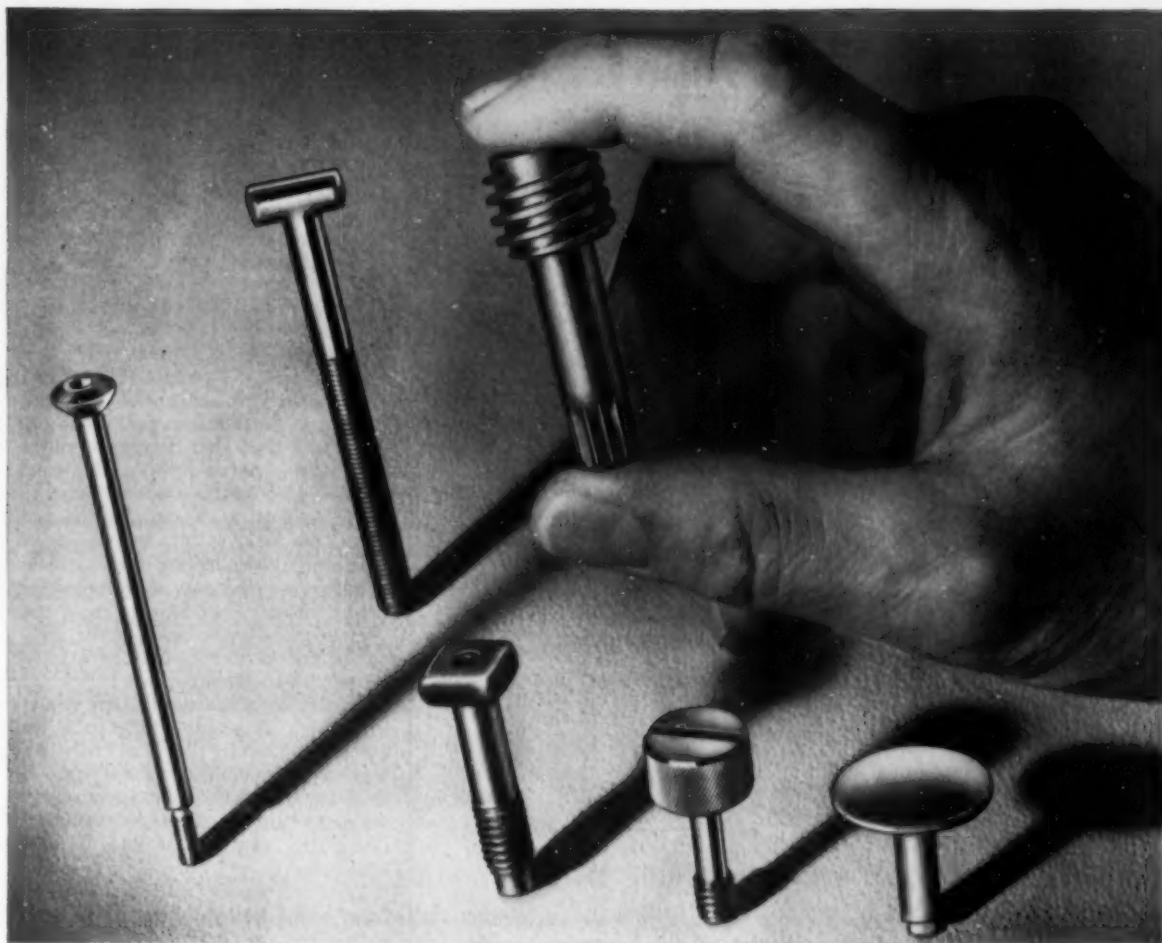
Obviously this switch in product emphasis—even though Smith is by no means abandoning its substantial share of the frame business, which is growing—has meant big changes in management.

Always a one-man company under young Smith's father, who engineered plants, sold frames and pipe personally, the company now depends on the two men—Smith and Cornell—for its future.

- **The Ford Pattern**—In a way, A. O. Smith is a junior version of the postwar Ford story—with variations, such as the fact that Smith wasn't bleeding from losses.

But both companies are in the auto industry; both have long been under family control; both have had to undergo major organizational changes. On top of this, there is the Smith-Cornell team to match the Henry Ford-Ernest Breech partnership.

Young Smith, an industrial engineer graduate (Yale '42), was thrust into the presidency of the company after his father died in 1944, much as Henry II was. His biggest job, too, may be facing up to the fact that the family may have to relinquish some of



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its control. The company's financing is internally generated, but this has had to be supplemented by long-term loans totaling \$32-million to meet postwar expansion costs. Continued expansion, some people figure, may necessitate outside financing.

Cornell's Influence—The organization changes match Ford's, too. Smith has turned over most of the daily operations to Cornell, gives his attention chiefly to future planning.

Cornell came in as assistant to the president William C. Heath, in 1945.

Once on hand, he moved swiftly, taking over the Permaglas Div. where young Smith also cut his teeth. Then, three years ago, he became vice-president and general manager. That was about the time that Smith's organization began shaking down to its present state.

• **Reorganization**—These changes, too, follow the Ford pattern in some ways. Operating divisions are now virtually autonomous and are split up along product lines. They have to meet specific business goals, such as the 22% return on net worth. Each is a profit center for control purposes.

Under Cornell, controls have firmed up strongly. Now, after three years, the company has an elaborate chart system, the brainchild of Heath, who retired last month as chief executive officer and chairman of Smith's executive committee, along with Rae F. Bell, board chairman.

Every six weeks, when top management meets with its division managers, these charts for each division—covering an entire wall of a briefing room—graphically spot what has been happening in all phases of that business. They cover sales, accounts receivable, inventories, gross fixed assets, gross profit, payroll as a percent of shipments.

• **New Blood**—Like Ford, the company has pulled in outsiders, too. It now has a director of marketing, a brand new job for Smith, filled by S. E. Wolkenheim from Hotpoint.

In merchandising, Smith is using all the razzle-dazzle of the typical appliance field, maybe a little more. On water heaters it tried something new, selling directly to appliance distributors who never handled water heaters before.

For its newer products, Smith will use the same kind of hard-hitting merchandising.

Of course, you can't change an organization like Smith overnight. It is significant that company officials still talk about "gross shipments" rather than sales, a throwback to the old non-selling days.

But having its two chief management men coming out of consumer durables has given the company added bounce for its new product goals. **END**

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Flexural strength		
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Flexural modulus		
(10 ⁶ p.s.i.)	D790-49T	0.33—0.36
Rockwell Hardness: (R scale)	D785-51	63—94
Isod Impact (ft. lb./in. notch)	D256-43T	2.7—11.0
Heat distortion (°C.)	D648-43T	89—70
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Chmn. Edgar M. Queeny takes active part in planning and writing Monsanto's report to stockholders.

An Annual Report That Reads Like



LAYOUT, titled Monsanto's Manpower Needs, is typical of the picture text story treatment of the 1955 report.

This week, Monsanto Chemical Co. began mailing out 100,000 copies of its 54th annual report to its stockholders and employees. The report bulged with rosy figures since it was the first that included last year's merger with Lion Oil Co. (BW—Jul.30'55,p46).

But something else new had been added to Monsanto's report. It was a style that may indicate a trend in the constantly shifting attempts by corporations to get the story of annual operations across to stockholders and the public as clearly as possible. Edgar M. Queeny—Monsanto chairman and a man who has been interested for years in how the company presents itself between the covers of annual reports—describes the style as "Life-like," an attempt to make the report as readable as any magazine.

Actually, Monsanto's report this year didn't need much window-dressing to make it readable. From a stockholder's point of view, its bare financial contents were good enough:



This year he distributed . . .

a Magazine

- Sales volume reached \$522-million, the first time the half-billion mark has been topped.

- Net profits were \$42-million after taxes, a healthy 8% return on sales.

- Assets totaled \$562.5-million, also a new high.

- **New Format**—But Monsanto's report doesn't plunge into the finances of the big producer of chemicals, petrochemicals, oil, textile fibers, and "all" (the synthetic detergent).

Instead, it starts off with a personal letter from Queeny, describing the most important event of the year—the merger with Lion—just as any magazine story might do.

From there on, one of the chief differences is the picture treatment. There is nothing sensational about using pictures. In fact, some people complain that the use of pictures in annual reports has been overdone. Georgeson & Co., stockholder relations experts, in a study of reports last month stated: "An-

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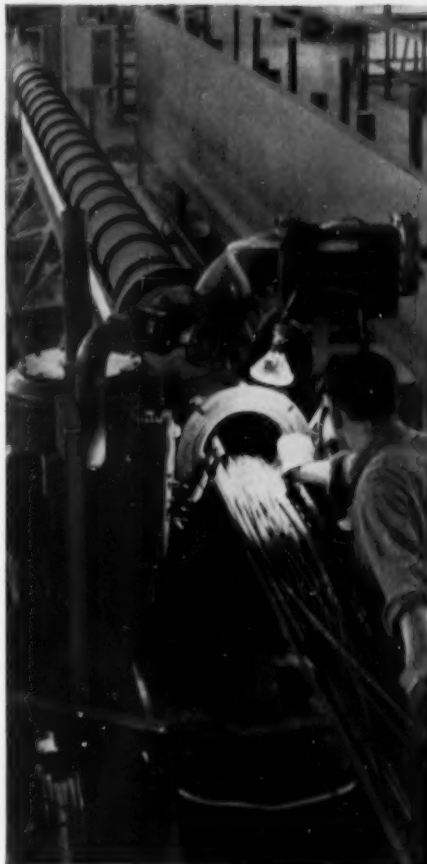
Send now for your copy of Bulletin 43, containing complete technical and ordering information. Write Superior Tube Company, 2007 Germantown Ave., Norristown, Pa. West Coast: Pacific Tube Company, Los Angeles 22, Calif.



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The picture to the left shows Superior titanium tubing drawn to .0455" OD, .00225" wall thickness. This tubing is available in sizes from .012" OD, .002" wall thickness.

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STRIKE picture at a Monsanto plant turns up in this straightforward report.

other feature which often has negative effect on the stockholder is a multiplicity of charts and pictures."

To overcome that, Queeny and the men who help him plan the annual reports—they're already getting notes from Queeny on the one for 1956—decided to make the pictures work with text to tell a story.

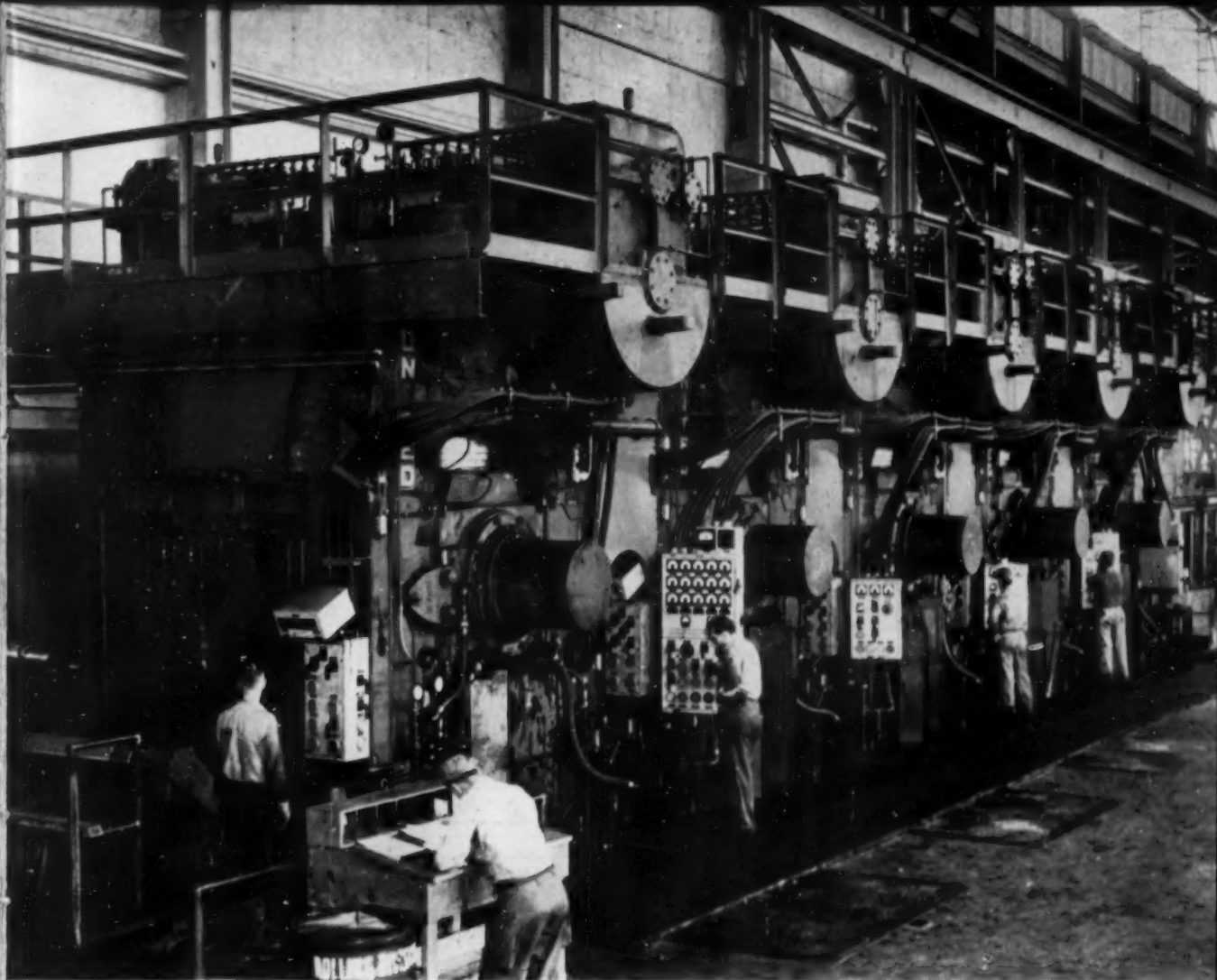
This makes use of a major development in the publishing field that has long been used by magazines such as **BUSINESS WEEK**.

Queeny believes that this picture-text story idea is experimental enough to give new flavor to what ordinarily—even with fancy color and art—can be a dull review of company operations.

• **Breakdown**—The stories that the annual report tells don't break down into divisions or functions, such as research and engineering. Instead, the year's operations are handled as over-all corporation results. "After all," says Queeny, "that's what really concerns the shareowner."

Subject matter—chosen by Queeny for its importance—is broken down into such things as new construction, new products, and Monsanto's manpower needs.

• **Color Note**—Monsanto also has toned down the lavish use of color that has irked stockholders of many companies, and caused them to wonder "What did that cost me?" Monsanto



Kaiser Steel Corp. uses Rome cable on vital power and control circuits for five-stand cold reduction mill.

How Kaiser Steel licked 3 tough electrical problems

Heat and corrosive fumes of the steel industry cause deterioration in most electrical insulating and sheathing materials—at an alarming rate.

A typical case: the big five-stand cold reduction mill (above) at Kaiser's Fontana, California, tin plate plant. Like other heavy machinery, it must have vast amounts of electrical power—without costly interruptions. So, Kaiser's basic problem was to find a high-voltage cable for underground and open air installation that would stand up under severe operating conditions.

Specifically, Kaiser needed a power cable that would: 1) resist a bad acid and alkali-corrosion hazard, 2)

overcome the threat of electrolytic action that could come from using a lead sheathed cable, and 3) reduce installation costs.

They selected a particularly rugged type of power cable to carry the 6900-volt load. It is a durable cable protected by a tough, long-lived Neoprene jacket. The insulation is a time-proven oil-base rubber compound with excellent aging and ozone-resisting characteristics. The

cable is made by Rome Cable Corporation under the trade name, Ro-Zone-RoPrene.

It resists the relentless attacks of heat, corrosive fumes from the acid pickling line, oils, and abrasives. Being relatively simple to work with, to splice and terminate, it reduces installation costs.

Rome Cable's long experience with industrial wiring problems can prove useful to you, too.

Wire up today for tomorrow's industry

ROME CABLE
CORPORATION

Rome, New York • Torrance, California

The "man" from Cunningham & Walsh



This time the "man" is Miss Kate Urquhart of our advertising agency, working at the point of sale.

Why at the point of sale? Simply because it's the one place to get the sales facts straight... straight from the customers.

That's why it's our agency policy for writers, art directors and account executives to work at the point of sale one week a year.

It takes a lot of hard work. But that's one reason why our advertising works so hard.

Cunningham & Walsh, Inc. 260 Madison Ave. N. Y. 16 MU3-4900



COLOR is used sparingly, and only where it helps the report tell a story.

still uses some four-color pictures, but they, too, are worked together with the text. What's more, color is used only on the pictures, not to dress up tabulations. And where color is used, it is because color helps tell the story—for example, about products such as fabrics made of Monsanto's Acrilan fiber.

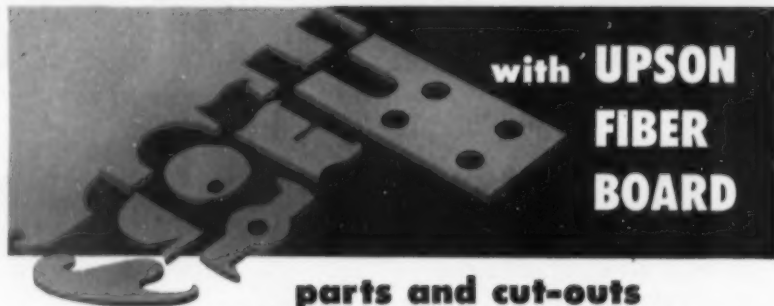
This paucity of rainbow hues enabled Monsanto to hold down the cost of the annual report, even though it is heavily illustrated. The company was right on budget—\$60,000—even though it shipped out many more reports this year because of the added stockholders from Lion Oil.

• **Less Fine Print**—There are other significant changes in Monsanto's report. For instance, there are no notes to the financial statement. This is a major departure, and one that Queeny didn't know whether the accountants, Haskin & Sells of St. Louis, would accept. The accountants agreed to this after they read Queeny's Financial Statement, designed to obviate the need for small-print notes.

One other point may startle some financial experts. There are no charts, only tabular statistics. Queeny thinks that many charts are redundant when set alongside tabular statistics stating the same set of facts. Besides, he doubts many people understand such charts.

• **At a Glance**—The financial results of 1955—published in the back of the report in a separate section—carry no comparisons with previous years, because the Lion merger makes any such comparison meaningless. But Queeny did order something special for stockholders. There is a 25-year comparative table of assets and liabilities pulling together for the first time all of the company's interests. It includes the company's non-consolidated holdings

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parts and cut-outs

Upson Wood Fiber Board is available in many sizes and thicknesses, special finishes and colors. And Upson's special cutting equipment will pre-cut board to your exact needs.

uses:

As carry racks, parts bin dividers, spool ends for rope, wire, rugs or linoleum. In your product as a filler, liner, backer, or gasket. Furniture and toy manufacturers use Upson cut-outs and parts: card table tops, mirror backs, drawer bottoms, train tables, dart boards, animal cut-outs. Upson Board is widely used in packaging and shipping, too, as pallets, drum heads, blade protectors and dividers.

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The Seeburg Background Music Library.
Monthly refresher service. Pressed for
Seeburg by RCA Victor Custom Record
Department.

That's because Seeburg music goes anywhere. Regardless of the size of your business or its location—in a large city, suburb or small town—you can have Seeburg Music . . . simply and economically.

The Seeburg Plan makes this versatile music system available to you on a *lease-purchase* agreement covering all the equipment. Nominal monthly payments apply toward ownership of the entire system.

The Seeburg Music has been scientifically developed for work and background music service to assure maximum benefits for your business.

The Seeburg System is built around the world-famous Seeburg Select-O-Matic mechanism that has a capacity of 400 selections of music. All components possess the finest high fidelity characteristics to provide the ultimate in work and background music reproduction.

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REEVES

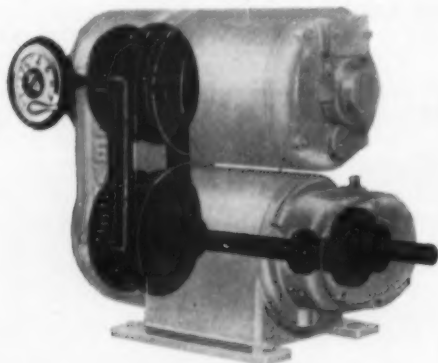
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Within streamlined, metallic blue housing is REEVES' "weatherized" motor, time-tested speed changing mechanism, and heat-treated helical gear speed reducer. Maximum space for vertical model only 16 1/4" x 21 1/2" x 11 1/2". Other models equally compact.



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versatile application

Select your exact needs from 112 assemblies: 1/4, 1/2 or 3/4 hp. units; horizontal left or right, vertical, or 45° left or right models; horizontal or vertical down output shaft.

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Division of RELIANCE Electric and Engineering Co.



QUEENY thinks report should be for the average stockholder, so statistics come last.

such as its 50% ownership of Chemstrand Corp.

"With that," says Queeny, "share-owners can really see for the first time what they own and how it's grown."

• **Precedents**—These changes by Monsanto carry some weight, since ever since Queeny wrote his first report in 1928, Monsanto has been setting precedents. Long before the Securities & Exchange Commission requirements forced greater disclosure of company operations, Monsanto has been issuing reports with information—and in a style—that even today surpasses the quality of some corporation reports.

All this time, it has been Queeny's particular interest to make annual reports reflect his thinking. He writes much of the report himself at home in longhand, sees that planning is started early, and that constant checks are made to improve the reports.

Queeny is against glossing over adverse news, too. This year's report shows a picture of a picketline at one of the plants. In addition, it bluntly states that work on "synthetic cortisone, titanium, Krilium soil conditioner and atomic power . . . have not borne fruit."

This straight reporting and the reports' style have helped make Monsanto a consistent winner of awards for outstanding annual reports.

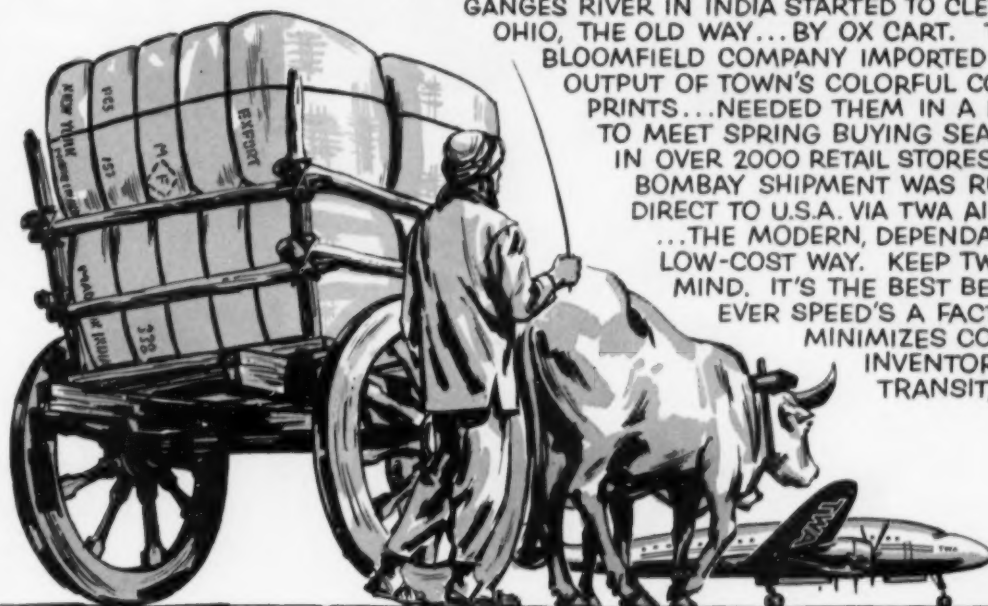
• **Always Experimenting**—Even so, Queeny still favors constant experimenting. In 1949, after three years of top awards, Monsanto surveyed financial analysts to get their views. In 1950, the company split its report into narrative sections on the basis of operating divisions—then dropped that idea in favor of the bigger corporate picture.

In 1953, the company concentrated on the production problems of making a better looking report and still hold-

ALONG THE WAY... OF **TWA**

TWA AIR CARGO SHIPMENT LAUNCHED VIA OX CART!

TRUE ENOUGH...SHIPMENT FROM FARRUKHABAD ON GANGES RIVER IN INDIA STARTED TO CLEVELAND, OHIO, THE OLD WAY... BY OX CART. THE BLOOMFIELD COMPANY IMPORTED ENTIRE OUTPUT OF TOWN'S COLORFUL COTTON PRINTS...NEEDED THEM IN A HURRY TO MEET SPRING BUYING SEASON IN OVER 2000 RETAIL STORES. FROM BOMBAY SHIPMENT WAS RUSHED DIRECT TO U.S.A. VIA TWA AIR CARGO...THE MODERN, DEPENDABLE, LOW-COST WAY. KEEP TWA IN MIND. IT'S THE BEST BET WHEN- EVER SPEED'S A FACTOR. MINIMIZES COST OF INVENTORY IN TRANSIT, TOO.



AIR-FRESH

VIA **TWA** SUPER-G "BOOKED AIRFREIGHT"



WESTERN GROWERS* HAVE LONG USED THIS IDEA... AND REGULARLY SPEED FARM-FRESH FRUITS AND VEGETABLES DIRECT TO MARKETS IN MATTER OF HOURS VIA TWA AIR CARGO. ASSURES BETTER QUALITY... PERMITS REPLENISHING STOCKS QUICKLY... RESULTS IN FASTER TURNOVER. PHONE TWA ANY TIME.

WHEN YOU WANT TO MAKE SURE YOUR COAST-TO-COAST SHIPMENTS MOVE ON SCHEDULE...

CALL NEAREST TWA OFFICE AND ASK "ABOUT SUPER-G 'BOOKED AIRFREIGHT.' CARGO CONSULTANT WILL EXPLAIN THIS EASY, QUICK, SURE SERVICE.

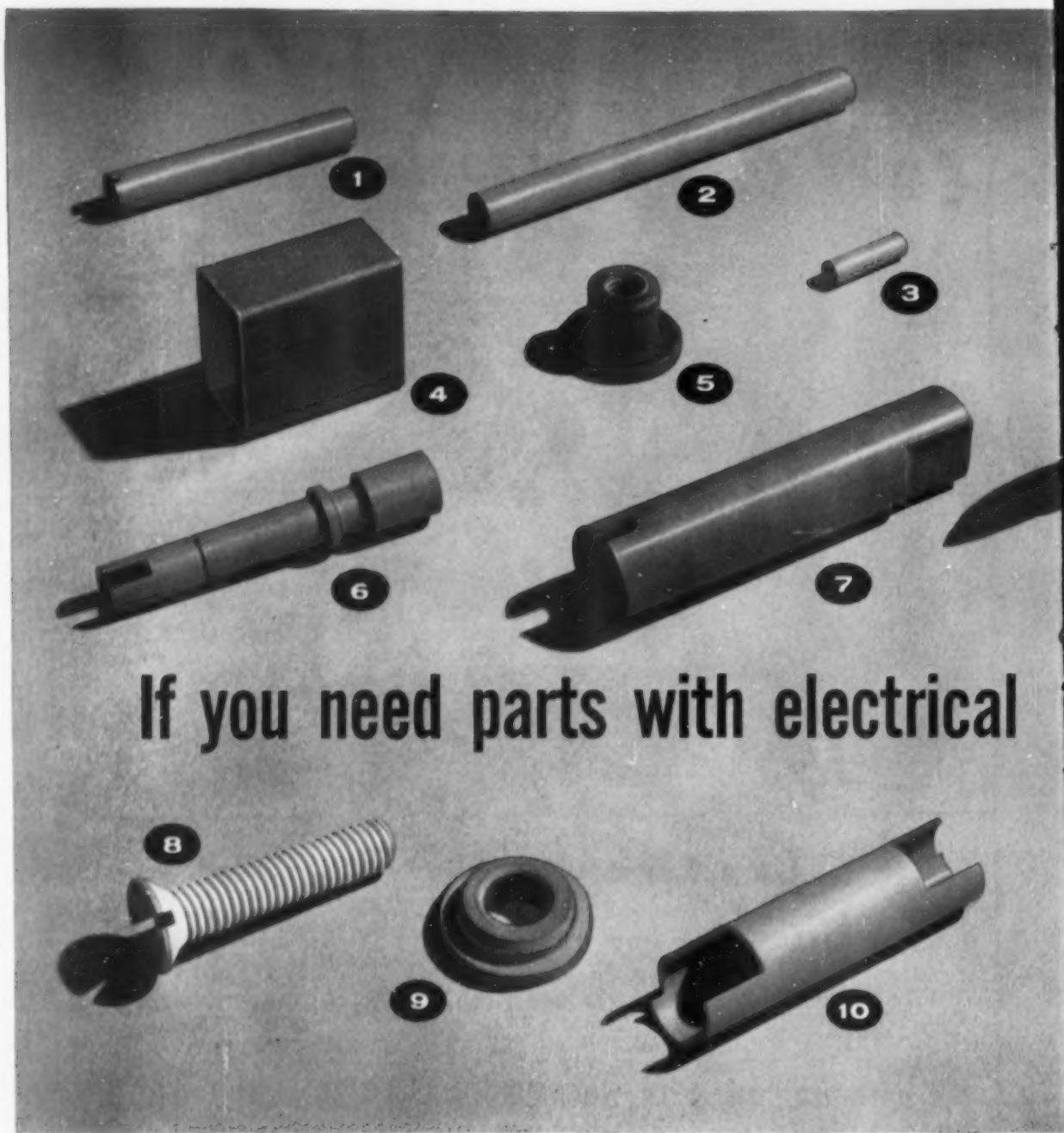


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Air Freight and - in U.S.A. - Air Express*

TWA

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If you need parts with electrical

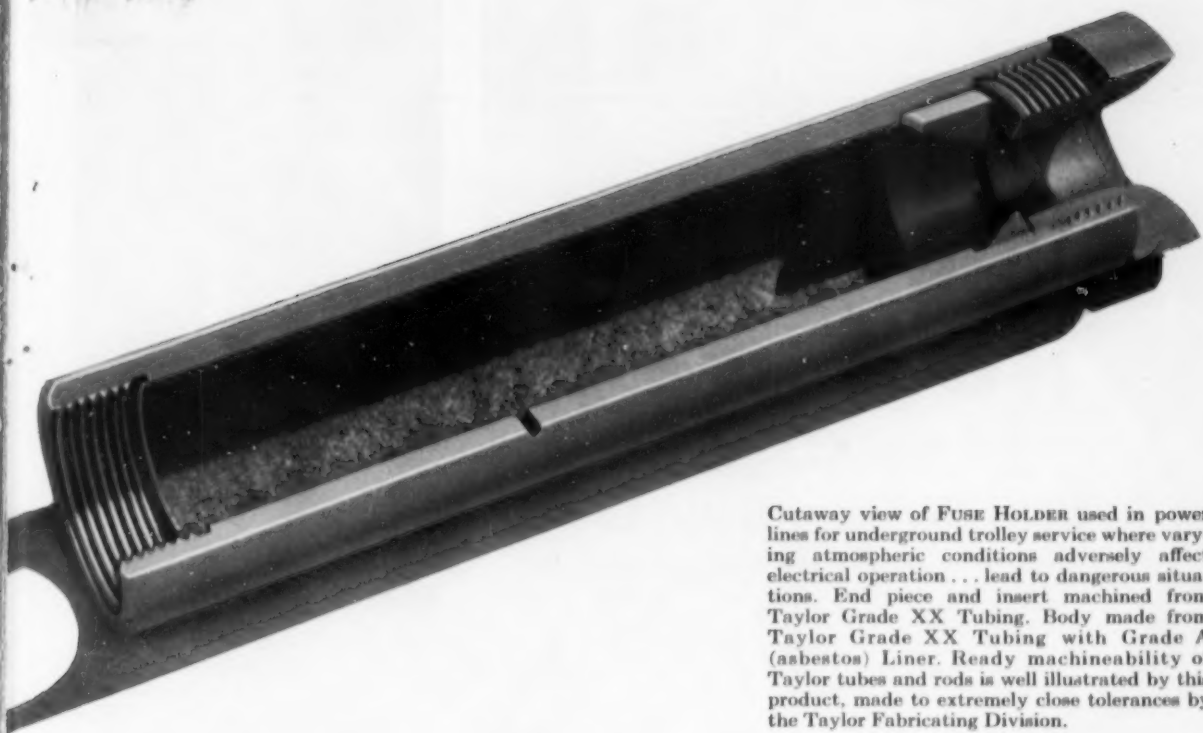
1. Tuning Shaft coupling—Taylor XX. 2. Antenna insulating spacer—Taylor GPG. 3. Thermistor case—Taylor XX-10. 4. Solenoid coil form—Taylor G-5. 5. Insulated threaded guide—Taylor Vulcanized Fibre. 6. Fine tuner shaft—Taylor XX-10. 7. Dishwasher impeller shaft—Taylor XX. 8. Flat head machine screw—Taylor L-5. 9. Mounting grommet—Taylor C. 10. Flyback transformer coil form—Taylor XX.

● The parts shown here—all fabricated by Taylor—are but a few of the hundreds of varied parts made from Taylor tubes and rods.

For the Products You Make—

investigate these Taylor Materials

Vulcanized Fibre	Melamine Laminates
Phenol Laminates	Epoxy Laminates
Silicone Laminates	Combination Laminates
Polyester Glass Rod	



Cutaway view of FUSE HOLDER used in power lines for underground trolley service where varying atmospheric conditions adversely affect electrical operation . . . lead to dangerous situations. End piece and insert machined from Taylor Grade XX Tubing. Body made from Taylor Grade XX Tubing with Grade A (asbestos) Liner. Ready machineability of Taylor tubes and rods is well illustrated by this product, made to extremely close tolerances by the Taylor Fabricating Division.

insulation plus mechanical strength...

...investigate the advantages of Taylor Laminated Tubes and Rods

EASIER fabrication and assembly . . . reduced material costs . . . improved end-product service —these are the results you can expect when you use Taylor laminated tubes and rods in your electrical or mechanical components.

Taylor tubes and rods are produced in many paper, fabric and glass-base grades—using special formulations of Taylor phenol, silicone, melamine or epoxy resins.

They are standard products. Tubes are supplied with inside diameters as small as three thirty-seconds of an inch . . . rods with diameters from one-sixteenth of an

inch. This wide range of grades and sizes assures availability of a material to meet your mechanical, electrical and heat resistance requirements.

Taylor offers additional opportunities for savings through its Fabricating Division . . . which is qualified, both as to special equipment and experience, to produce finished parts to your specifications.

Contact your nearest Taylor sales engineer to find out just what Taylor tubes and rods can do for you . . . in improving your present operations and products and in the development of new products.

TAYLOR FIBRE CO. Plants in Norristown, Pa. and La Verne, California

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... Large ones like the William Beaumont Hospital at Royal Oak, Michigan. Smaller ones like the new Garfield Morgan Memorial Wing to the Lynn Hospital at Lynn, Massachusetts. All know the worth of Clarage equipment. And the same is true for EVERY type of building. Whatever your air handling and conditioning requirements, call upon Clarage—dependable equipment for making air your servant.

CLARAGE FAN COMPANY, Kalamazoo, Mich.

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One of the Nation's Largest Fabricators of Architectural Metal Building Products

The partial list gives you an idea of the wide range of Michaels products. Whatever you need, if it's made of stainless steel, aluminum or bronze, Michaels can make it. Architects and builders know that when they place a job with Michaels, every component will meet specifications; the materials will be at the location when needed, and the quality and workmanship will be the finest obtainable anywhere. Send us a set of specs for your next project—large or small. You'll find Michaels a thoroughly reliable source of supply.

- Bank Screens and Partitions
- Welded Doors
- Store Fronts (special)
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- Church Work (special)
- Candelabras
- Name Plates
- Letters
- Check Desks
- Lamp Standards
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- MI-CO Parking Meters
- Museum Trophy Cases
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Literature on any or all Michaels products will be sent on request.



THE MICHAELS ART BRONZE COMPANY, INC.

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Experts in metal fabrications since 1870



NEW IDEAS, many of them Queeny's, pop up each year in Monsanto's report.

ing costs down. It now uses offset printing rather than letterpress.

This year's efforts are partly a result of a survey made by General Electric Co. The survey showed that people like lots of pictures. It was Queeny's idea to put the pictures to work.

• **Findings**—Queeny's decision to change the format of Monsanto's report fits in with the thinking that Georgeson & Co. did after it surveyed a sampling of recent yearend statements.

This consulting firm found:

• A general trend over the past few years toward less emphasis on expensive color.

• Many of the sample group had reduced the number of charts and pictures—all too the good, says Georgeson, but adds, "Actually it is not so much the number of charts and illustrations that matter . . . but whether they are appropriate as amplifications of text."

• Lots more thought goes into statistical tabulations, which is fine, says Georgeson, then raises the question: ". . . how many stockholders are really interested in the elaborate tabulations these reports contain?" Georgeson thinks reports are going too far, appealing to analysts—who can get the information elsewhere—rather than to stockholders.

• Writing quality is still pretty bad—which indicates to Georgeson that top executives don't pay enough attention to the reports soon enough. In its survey, Georgeson found only a small percentage where the language "was interesting rather than merely dull." **END**

The first tent of its kind in America !



Fabric coated by H. M. Sawyer & Son Co., Watertown, Mass.; tent made by Hoosier Tarpaulin Co. of Indianapolis.

Unique—for two reasons. The tent shown here covers Tucson's Winter Playhouse, first winter theater in the U.S. It is also the first tent made of multi-colored vinyl coated nylon—with the brightest, most vivid colors ever seen in a flame-resistant tent, and made to stand up under the sun, winds and dust of the desert.

The red-and-white striped top of this new tent uses Welkote, the Wellington Sears nylon fabric

specifically engineered as a base

for both vinyl and neoprene coating. When properly coated, it has extremely high tear-resistance and strength, resists fading, shrinking, and deterioration caused by oil, mildew and rot. Yet it

is unusually light, easy to handle. Available in three basic weights and a wide range of widths, Welkote is specified by leading coaters for truck tarpaulins, playing field covers and many other protective coverings for industrial, agricultural and marine uses.

This tough nylon base fabric is one of many developed by Wellington Sears for the coating industry—and one of the endless parade of fabrics engineered by Wellington Sears for specific jobs throughout all phases of all industries.

If you are interested in Welkote-based materials, write us. We will gladly put you in touch with a dependable supplier. Address Dept. C3-2.

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Paint sprayed cold often looks like this



Paint sprayed hot reduces fog, saves material

Telltale photos prove DeVilbiss cuts paint waste!

**New Hot-Spray method creates less paint fog;
saves up to 50% in material**

By the application of controlled heat to the material—and spraying at far lower pressures—the new DeVilbiss Paint Heater solves the problem of spray fog, the major cause of spray-material waste. More paint reaches the surface; a heavier paint film can be attained with each application.



DeVilbiss Paint Heater permits Marinette Marine Corp., Marinette, Wisc., to effect multiple benefits in applying vinyl paints to U.S. Navy landing craft. Firm reports hot-spray system practically eliminates spray fog, objectionable fumes; allows heavier film build without sags; maintains trouble-free production rate.

So, generally, one hot-sprayed coat covers better than *two or more* coats sprayed cold. Spraying time and material are often cut in half! And finishes? They dry faster, shrink less; come out glossier!

Usable for all types of products, the DeVilbiss Paint Heater can be *your* means to better finishing at lower cost. Call your DeVilbiss supplier, today, for an appraisal of your operation.

For full details, write for Folder F-286.

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BRANCH OFFICES IN PRINCIPAL CITIES

In Management

...

Internecine War Grips Vertol Board And Founder Piasecki Is the Target

Don R. Berlin, president of Vertol Aircraft Co., which changed its name from Piasecki Helicopter Corp. only a week ago, is asking stockholders to approve removal of the company's founder, Frank N. Piasecki, and two of his associates from the board. Piasecki was eased out of the board chairmanship and active management of the company by the Berlin group after a series of policy clashes last summer (BW—Jul.23'55,p46).

After those clashes, Frank Piasecki formed a new outfit, Piasecki Aircraft Corp.—a potential competitor with his original company. Meanwhile, he has been using his group's holdings of Vertol Aircraft stock—22.7% of it—to keep three seats on the Vertol board.

Now Berlin says that Frank Piasecki has created a conflict of interest within the Vertol board that makes it impossible for Vertol's directors to discuss new ideas or make proposals to the Defense Dept. That's why he's asking shareholders to approve on Apr. 5 a resolution that will prevent representation of competitors on Vertol's board.

...

In Russia, Party Bosses Give The Foremen a Big Boost

Russia's factory foremen are set to benefit from the Soviets' new drive to challenge the U.S. economically. Russian leaders are devoting fresh attention to raising the status of foremen.

So says the National Management Assn., formerly the National Assn. of Foremen, in an article in the current issue of its magazine, Manage.

The group quotes Russian Premier Nikolai Bulganin as saying: "Because he is the on-the-spot organizer of productive labor, the importance and authority of the foreman must be raised."

Picking this up as the party line, Russian newspapers have begun exposing excess paper work, lack of authority, multiplicity of bosses and arbitrary factory management demands that foremen must keep pressing harder for more production.

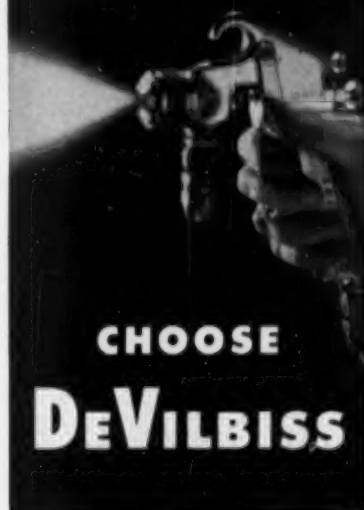
...

Disston Employees File Suit To Regain Their Pension Rights

To regain pension rights that they claim they lost after H. K. Porter Co. took over their company (BW—Nov.26'55,p118), 95 salaried employees of H. K. Porter Co.'s Henry Disston Div. have brought suit against their former employer, Henry Disston & Sons, Inc.

The plaintiffs charge that on Nov. 21, five days after Porter took over Disston's physical assets, Disston voted to discharge all employees and terminate all pension rights—except those of already retired salaried personnel and union-protected hourly workers.

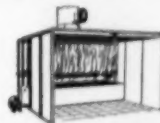
**For all
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equipment**



Compressors—up to 22.6% more air per power dollar. 1/4 through 15 hp.



Hose—air and fluid—specially fabricated for spray-painting use.



Spray Booths—full range of standard and specialized types.

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What's going on at Calumet & Hecla?



Mining ore, cutting timber—two unrelated processes to be sure. Yet they are the basic sources for a whole stream of Calumet & Hecla products marketed through one or more C. & H. divisions.



DIVISIONS OF
CALUMET & HECLA, INC. —
CALUMET DIVISION
WOLVERINE TUBE DIVISION
CANADA VULCANIZER and
EQUIPMENT COMPANY LTD.
FOREST INDUSTRIES DIVISION
GOODMAN LUMBER CO.

Timber harvested by the Forest Industries Division is processed into a variety of sizes and shapes by our Goodman Lumber affiliate. Copper ore, mined, smelted and refined by the Calumet Division, is processed into castings, chemical compounds and other forms. The Wolverine Tube Division converts much of this copper into tubes and other shapes suitable to a large variety of applications.

This is the way C. & H. maintains control of quality—from source to finished form—in many of the products that reach you through divisions of Calumet & Hecla.

Calumet & Hecla, Inc.

FABRICATORS OF ALUMINUM, STEEL, COPPER AND WOOD
—PRODUCERS OF AGRICULTURAL CHEMICALS—MINERS OF COPPER

Under the original Disston plan, all employees with 25 years service at age 65 and all employees with 30 years service at age 60 were eligible for pensions. When Porter took over, it opened its own pension program to Disston employees whom it kept on—but granted pensions only to those who were not more than 55.

Alleging that they were thus illegally deprived of their rights to Disston pensions, older employees filed suit. None of the parties involved would estimate the actual cash at stake, but it may run as high as \$1-million. Due to a backlog of Philadelphia U. S. District Court cases, the suit may not come up for at least 18 months.

• • •

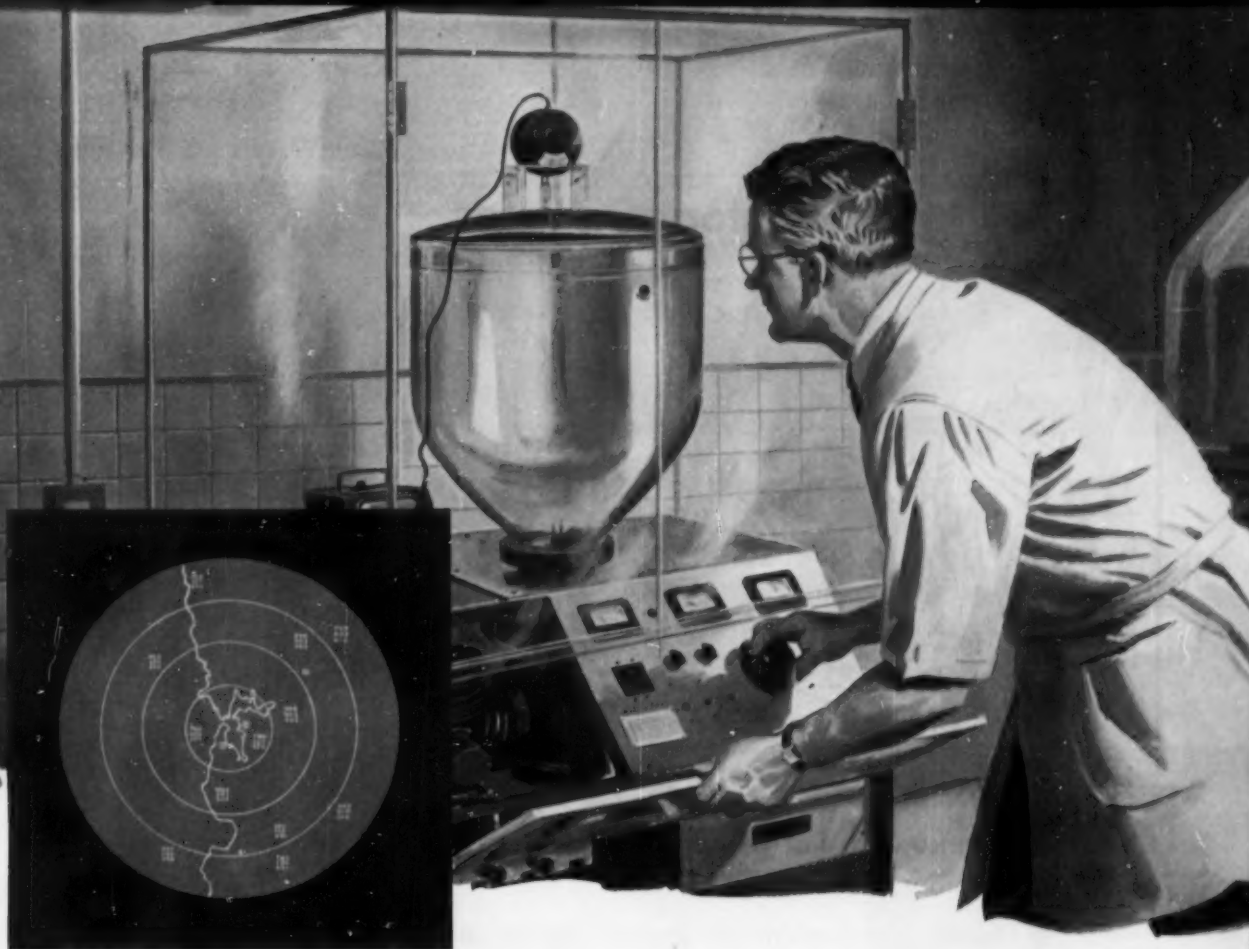
Management Briefs

Still diversifying: Textron American, Inc., last week announced it will acquire all the stock of General Cement Mfg. Co., Rockford, Ill., this month. General Cement makes liquid cements and electronics parts and tools. Its sales run between \$4-million and \$5-million a year.

Preparing for expansion: Union Carbide & Carbon Corp. has set up a new independent division, Union Carbide Development Co., that will handle the corporation's long-term planning and evaluation of new business ventures.

Fight's getting hot at Fairbanks, Morse & Co. Last week, Penn-Texas Corp. put its proxies into the mail, listing a slate of eight nominees for F-M's 11-man board. Penn-Texas, which began buying into F-M late last year and announced its holdings in January, has run into stiff opposition from Morse family management (BW-Mar.10'56,p112). But a Penn-Texas spokesman says his company hopes to get two of its men on the F-M board after the Mar. 28 annual meeting.

Brink's Inc., Chicago-based armored truck service, is fighting off a take-over by Pittston Co., a New York holding company that has announced it's buying Brink's stock. Brink's management has met Pittston's offer of \$36 a share with a similar bid, and reports "an excellent" response. Brink's annual meeting will be held Mar. 27.



What's Television got to do with national Air Defense?

TV, as home entertainment, seems far afield from the problem of identifying unknown aircraft over our country. But some of the electronic *techniques* which make modern television reception so good make Air Defense better, too.

The white-coated engineer in the picture above is evaporating aluminum on the screen of a 19-inch tube. This will *not* go into a home receiver. This electron optic tube, sold under the trademark *Charactron*[®], is used in "SAGE" . . . the Continental Defense System for air surveillance and is easily adapted for civil air traffic control as well.

A typical "picture" produced by this system is shown at the left of the illustration above. Here is shown the air above San Francisco, California, along about 3 o'clock in the morning. The groups of

letters and numbers on the face of the tube are the system's "read-out" of information gathered by radar. There are 34 aircraft overhead—3 unknown, but circled as such, and 31 completely identified, in code, as to type, identification, direction of flight, speed and altitude.

In one glance, the observer can see and record a mass of vital information formerly handled by passing on radar readings to a manual plotting system. *Charactron* can display the position of several hundred planes at once. Its speed is fantastic!

We build *Charactron*. We also apply similar electronic skills to home-front problems of business. Any time you've a need in Electronics or Communications, probably we could help.

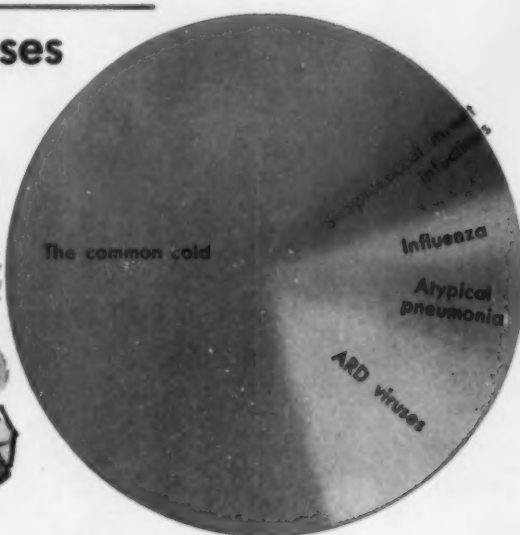
There is nothing finer than a Stromberg-Carlson.

STROMBERG-CARLSON COMPANY
A DIVISION OF GENERAL DYNAMICS CORPORATION
ROCHESTER 3, N. Y.



Radio, TV and Hi-Fi Equipment • Telephones and Central Office XY[®] Dial Equipment • Sound and Public Address Systems • Electronic Products for Our Armed Forces

Respiratory Diseases



Data: Common Cold Foundation.

- Science is at last beginning to make headway in the long unknown field of common respiratory diseases.
- Today, vaccination can protect against some of the viruses that cause these maladies.
- Though there's little hope that a vaccine will lick the common cold, a cure to beat its effects is likely.

By 1961: A Cure for Colds

Medicine's virus researchers, fresh from their successful war against the polio virus, are turning their newly learned techniques on one of man's oldest and most mysterious enemies—the common cold.

The country's leading fighters in this new battle don't know precisely the size of the enemy they're taking on. They do know that it occupies the largest part of the field of respiratory diseases (chart). Yet they are predicting that within five years they'll be able to offer a drug that will cure the common cold.

• **Cure—Not Prevention**—The stress is all on the word "cure." For years, the researchers hoped to find a preventive vaccine that would give immunity against the common cold. Now they've decided that this job is practically impossible. This has been a disappointment for the researchers, but it hasn't caused them to slow their efforts to bring relief to millions of suffering

sneezers and sniffers. And they're optimistic about reaching this goal.

Harvard University Medical School's Dr. John F. Enders, who shared the 1954 Nobel Prize for his work against viruses, says "Scientists are making such rapid progress toward a cold cure that it may not be long before this commonest of civilized man's ills is wiped out."

Enders and other leading battlers against the common cold have a ready explanation of why they have shifted the focus of their work from preventive to curative lines. They say that whereas contact with the virus (loosely, the sub-microscopic agent that causes the infection) gives immunity from polio, measles, yellow fever, and similar viral diseases, contact with a cold virus gives only the briefest immunity against re-infection.

A vaccine, containing a form of the virus, would give only the same short immunity. So that's why they're looking now for a chemical drug that,

instead of giving immunity against colds, will stop all the sniffles and discomfort that colds bring.

• **Why the Delay?**—The logical layman's question is: Why didn't the scientists try something like this long ago?

And when you put this question to the scientists, they have a raft of answers ready.

First, they say, is that the more research they do, the more viruses that cause what are known medically as "respiratory disease symptoms" they discover. This has been one of their biggest stumbling blocks. Even today, they recognize that they have not been able to isolate all the respiratory disease viruses. Yet already they have found:

• Thirteen types of viruses in one particular class responsible for cold-like respiratory ailments that seem to cause disease symptoms in the throat and eyes.

• Some 60 more viruses probably

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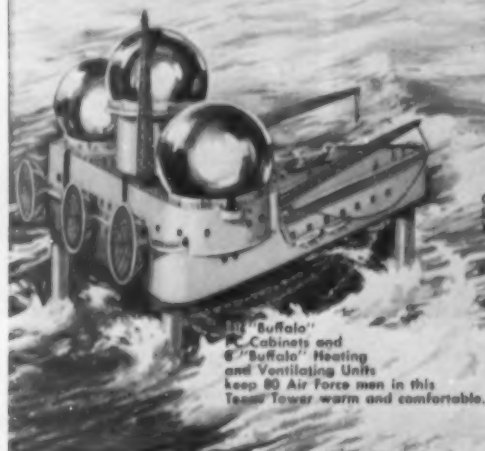
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responsible for streptococcal throat infections that cause cold-like symptoms.

- About 40 viruses that cause pneumonia-like infections.

- And there are undetermined numbers of other viruses that appear to cause no symptoms at all.

Next, say the scientists, most ideas about starting a strong program of basic research have been hampered by the fact that the common cold is a nuisance, not a killing or crippling disease. No one takes it very seriously, and thus funds generally haven't been available for a strong research program.

Moreover, it's only within the last few years that health authorities have become aware of the tremendous toll the common cold exacts from the nation's industrial efficiency. It's estimated that on the average, everybody in the country gets a cold twice a year and because of that is disabled 2½ days a year; that the common cold's cost to the U.S. economy each year is approximately \$5-billion—in lost production, lost time.

Finally, the researchers say, they're only just beginning to clear up a lot of vague language that's spread around their field. Many of them hold that the term "common cold" has little meaning today. They consider it a catchall designation for a host of undifferentiated respiratory infections that do show some clinical similarities and do fit somewhere into the medical department that's known as upper respiratory infections.

- **Finding a Pattern**—They have a complicated miscellany of facts about these infections. But they do not know how the viruses that cause these infections are related to one another, nor do they know precisely what percentages of upper respiratory infections can be ascribed to each of the various infections.

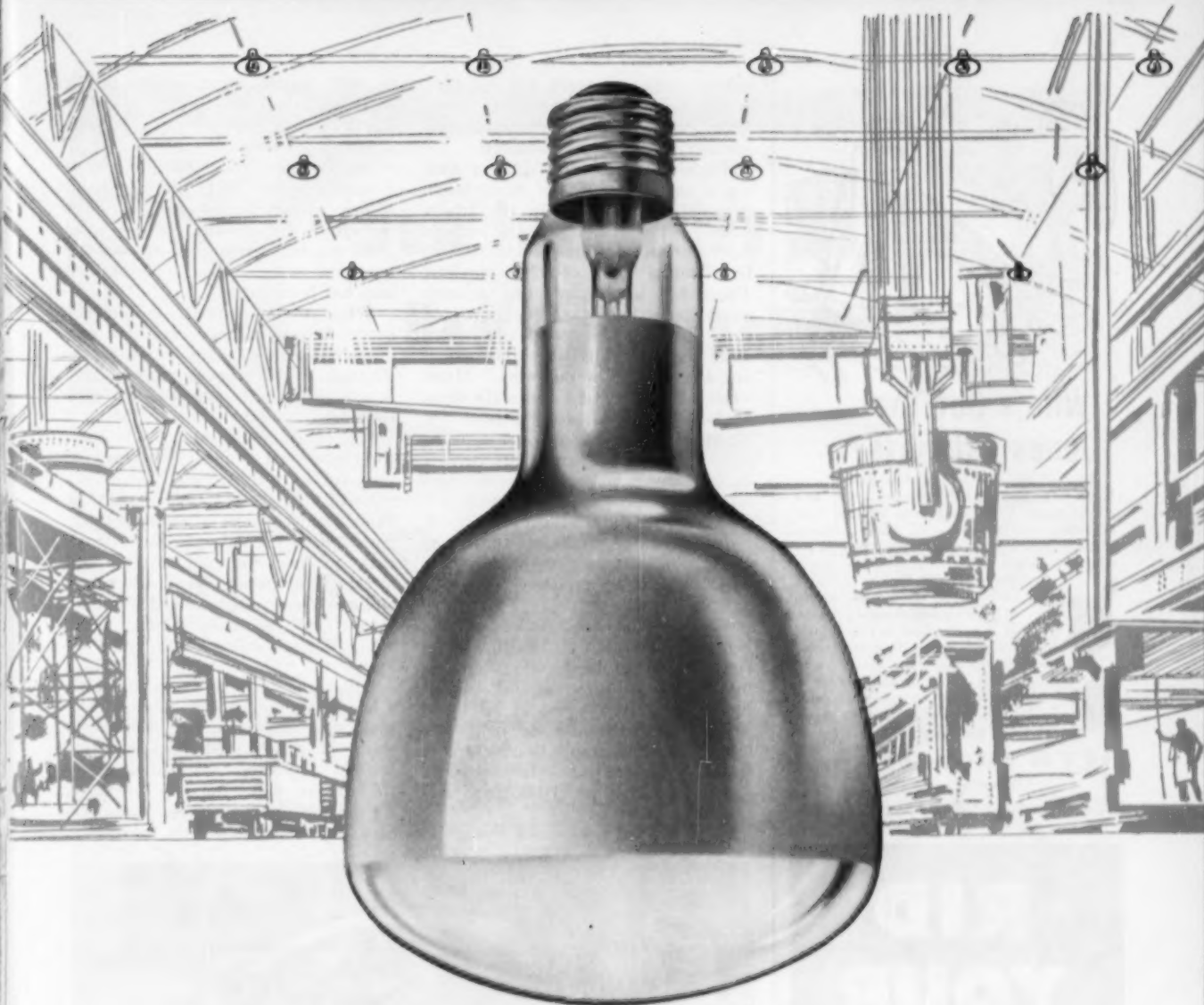
But recent research is beginning to bring some shape to the complex assortment of facts.

Greatest progress has been made in combating epidemic influenza. Most of the progress here followed the discovery that the infection was caused by certain filterable viruses that can be isolated in the laboratories and destroyed by antibiotics.

Hemolytic streptococcal infection ("strep throat" to laymen) has also yielded to preventive and curative drugs.

Primary atypical pneumonia—type of pneumonia that doesn't give way before the antibiotic drugs that will destroy other normal pneumonia infections—is now believed to be caused by a virus, but researchers haven't been able to isolate the offending virus and they admit the mystery probably won't be solved for many years.

Acute respiratory diseases, peculiar maladies that can spread wildly through



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military training camps but are practically unknown outside the armed forces, could give way before medical research at almost any moment.

• **Three-Year Search**—Work on finding a vaccine to prevent them began about three years ago in the laboratories of Dr. Robert H. Huebner of the National Institutes of Health, and Dr. Thomas Ward of Johns Hopkins. These two were conducting research on the growth of tissue cultures, and their discovery of three closely related acute respiratory disease viruses was at first a byproduct of this work. Meanwhile, at Walter Reed Hospital's Army Medical Service Graduate School, Dr. M. R. Hilleman had isolated a closely similar virus from specimens he collected during an epidemic of acute respiratory diseases among Army personnel during the winter of 1952-1953. Further research has since turned up eight more viruses that fit into this ARD (for "acute respiratory diseases") group.

And in the laboratories of the National Institutes of Health, a vaccine has been developed that gives substantial protection against one of the viruses. Researchers at NIH and Walter Reed Hospital are right now testing another multi-strain vaccine that they believe may offer immunity against three other types of ARD viruses.

From all this work—even though it

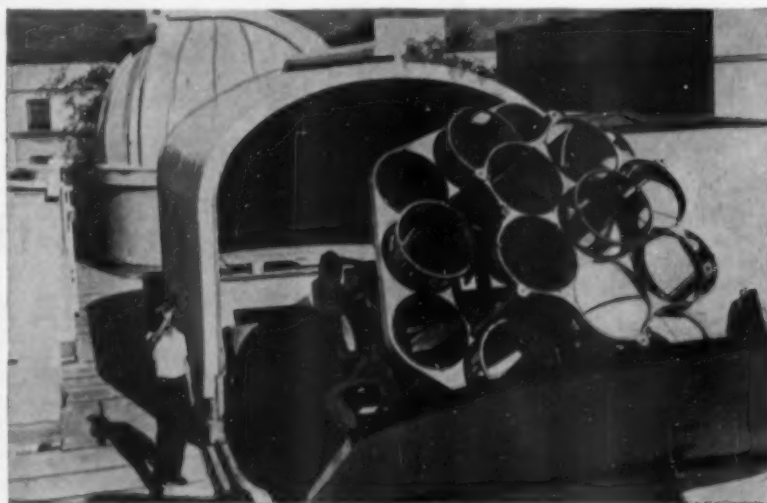
is still purely experimental—there's every indication that acute respiratory diseases will soon come under medicine's control.

• **Big Project**—For all the promise of a vaccine against ARD, the search for a cure in the biggest area of upper respiratory diseases—the common cold—still requires plenty of work over the next few years, although a big first step has been taken.

What seems to have broken the barrier here is the discovery of a new research technique. Late in 1954, Dr. Thomas H. Weller of the Harvard School of Public Health, Dr. Frederick Robbins of Western Reserve Medical School, and Dr. Enders developed a technique that allows researchers to grow viruses in test tubes.

Until then, cold viruses could be studied only in man or in the primate apes. These are the only two animals that can catch the common cold. All attempts to infect small laboratory animals—the much-worked rabbit, mouse, and guinea pig—have failed. And although cold viruses could be grown in artificial media—like chick embryos—they invariably died out after a few days.

Because man is no easy animal to study in a lab, and because chimpanzees and other primate apes are costly and temperamental creatures, it's not until now that cold researchers have been able to subject the sniffles



Drawing Heat From the Sun's Rays

This solar furnace is now being used at the California Institute of Technology for high temperature research. Here, the housing is rolled back to reveal the 19 lenses—each 2 ft. in diameter—that concentrate the sun's light on mirrors. The entire optical system is mounted like a telescope on a synchronous drive, so that the furnace always stays pointed at the sun.

So far the Cal Tech furnace has recorded temperatures as high as 5,440F, but that's not the upper limit of its heating capacity. Even so, the high temperatures achieved are well beyond the melting point of thorium oxide and zirconium oxide, metals that are so heat-resistant that they are being considered as materials for the man-made earth-circling satellite.



New Industries Meet New Opportunities

...in this section of the growing **GULF SOUTH**

This is the second of a series describing the area served by United Gas. Map shows United Gas pipe lines in a portion of East Texas.

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to anything more than brief scientific investigation.

• **Way to the Goal**—Now that they have tissue culture to work with, researchers feel their field is wide open.

Their first task will be to discover exactly which of the viruses cause the various upper respiratory diseases. When that's done they will be able to group the culprits and begin the search for drugs and vaccines that will fight them.

It's only in the last few months that scientists have been able to grow these viruses successfully in their labs. Until then, all their attempts to do this were spoiled because the tissue culture in which the scientists grew the viruses would become contaminated by bacteria. But now they have antibiotic drugs that kill off unwanted bacteria without interfering with the growth of the viruses.

Researchers will have to move out of their laboratories, however, if they're to learn how to attack the viruses. They have to learn how the viruses are transmitted; and if they're to find a successful vaccine, they'll need to experiment on human volunteers.

• **Biggest Finds**—But despite all the obstacles, the researchers are filling in what have long been blanks in the field of common respiratory disease, and they believe that they're on the verge of their most important findings.

• **Straight, or With Lemon?**—Meanwhile, how can the average sniffing citizen protect himself against the respiratory infections that almost everybody knows as the common cold?

Medical men's answers range all the way from a flat "not at all," to partisanship for a variety of formulas.

A strong group, led by Western Reserve's professor of preventive medicine, John S. Dingle, believes firmly that all vitamins, vaccines, antihistamines, bioflavonoids (derivatives of citrus fruits for which much has been claimed lately), and other chemical compounds on the market are worthless against the common cold.

People don't catch colds because they're chilled or exhausted, says Dingle. Moreover, not everyone catches cold when exposed to an infected person. Children get colds more frequently than adults, boys more often than girls, women more often than men. A cold is more likely to spread through a family if a child brings the infection home from school than if an adult brings it home from work.

Such figures prove little, do even less to help the researcher in his task of finding a cure for the common cold. But they are a sign of the kind of statistics gathering that goes on in the field of upper respiratory diseases—a field that research is only just beginning to unveil. **END**

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RESEARCH BRIEFS

The British government has announced an urgent \$271-million, five-year plan to step up scientific and engineering education to meet foreign technological competition. At present, Britain produces 57 graduate engineers for every million of its population, while Russia turns out 280, and the U.S. 136.

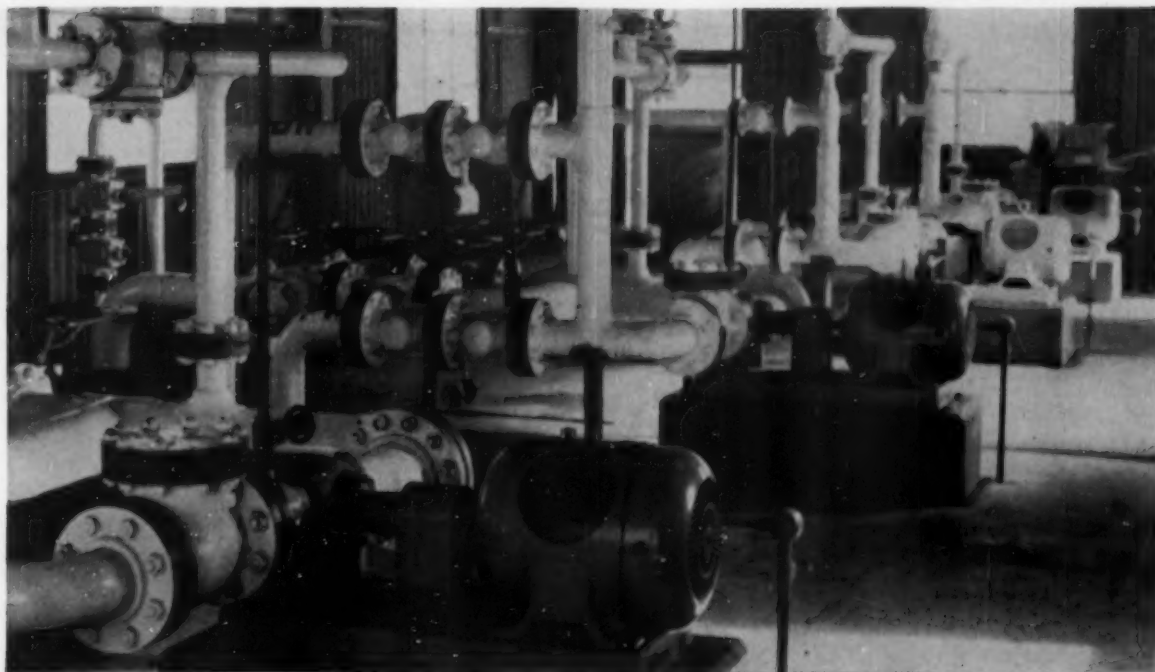
Nineteen industrial concerns, including Dewey & Almy Chemical Co., Eli Lilly, Inland Steel, U.S. Steel, and Armour & Co., have banded together in a cooperative venture to determine how nuclear research can be of value in their operations. Reason for the concerted attempt: A nuclear reactor at Illinois Institute of Technology—the nation's first designed specifically for industrial research—is expected to reach final design stage in April, opening the way to innumerable industrial applications of nuclear energy.

AEC rule changes make it easier for industry to buy stable isotopes for research. Neither domestic nor foreign applicants will now be required to file and to obtain Atomic Energy Commission approval of applications before buying stable (non-radioactive) isotopes and rare earths. Requests and purchase orders will henceforth be handled directly between the user and the AEC facility supplying the requested materials.

Results of pavement tests, evaluating a number of base-course materials used in concrete pavement construction, are reported by the Civil Aeronautics Administration. Findings in the load-transmission tests: Angular coarse-graded materials such as crushed slag and limestone are particularly effective in lower levels because of the confining action of the surface. Performance of viscous materials—such as asphaltic concrete—varies widely with the rate of loading.

Industry will benefit from a study of the constitution and development of magnesium alloys prepared originally for the Air Force. The study, released to industry through the Office of Technical Services, U.S. Dept. of Commerce, includes diagrams showing the constitution at 500F and 700F for both the magnesium-lithium-aluminum and magnesium-lithium-zinc alloy systems. Price of the study: \$3.50.

Salk polio vaccine problems, involving both field testing and vaccine use, will be researched for federal health officials by Dr. Francis A. J. Ainni at Russell Sage College. Aim of the sociological study of public attitudes is to improve future health programs.



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Mrs. Kennedy's Five Pounds of Sugar

—and why she can't always have it shipped by
the most efficient form of transportation

Ding-ding-ding! The cash register at the checkout counter is busy ringing up Mrs. Kennedy's groceries. A sack of flour — three cans of peaches — five pounds of sugar . . .

There's more than food included in every price the cash register rings up. There are distribution costs — including freight transportation. Everything Mrs. Kennedy buys — whether it's sugar or a new suite of furniture — must be shipped to her home town by freight. So it's Mrs. Kennedy who pays the freight bill when the cash register rings.

It is to keep Mrs. Kennedy's freight bill — and yours — as low as possible that a Cabinet Committee appointed by the President recommended that our national transportation policy be revised. If the whole business seems remote to you, maybe it will become more meaningful if we tell you the story of Mrs. Kennedy's five pounds of sugar.

Let's say that Mrs. Kennedy lives in St. Louis. A good deal of the sugar sold in St. Louis comes from New Orleans, where it is refined. Between New Orleans and St. Louis, there are three ways of shipping that sugar — by truck, by barge on the Mississippi River, and by railroad.

Let us assume further that the railroads between New Orleans and St. Louis find that, due to increased operating efficiencies, they can reduce their freight rates on sugar and still make a profit. Obviously, the reduced rate on sugar should benefit everyone involved — the sugar producers, the grocery stores, and finally, the hundreds of thousands of consumers in the St. Louis area like Mrs. Kennedy.

But the proposed rate reduction is never put through. In this imaginary but representative case, the application for the reduced

rate may be held up for months and then finally denied by the Interstate Commerce Commission. The railroads are forced to charge a higher rate than would otherwise be necessary. The reason, taken from many ICC decisions, is that the reduced railroad rate would "adversely affect" the competing forms of transportation.

In short, in cases of this kind, government regulation shields the other forms of transportation from railroad competition — at the expense of Mrs. Kennedy.

It is precisely this kind of situation which is at the heart of the Cabinet Committee's recommendations for revision of our national transportation policy.

The Cabinet Committee was appointed by the President of the United States to make a "comprehensive review of over-all Federal transportation policies . . . and submit recommendations." The Committee consisted of five members of the President's Cabinet and two other high government officials—men of such outstanding national stature that any suggestion that they would consider only one side of a case is absurd.

The report of the Cabinet Committee was unanimously approved by its members after intensive study, during which the views of all forms of transportation were given full consideration. Among its key findings and recommendations are:

- That government regulation of rates, as presently applied, frequently denies the public the benefits of the most efficient form of transportation — with consequent financial loss to the entire nation.
- That, in the public interest, no freight rate should be kept higher than otherwise necessary, merely to shield some

other form of transportation from the effects of fair competition.

The Cabinet Committee recommendations would apply with equal force to every form of transportation, and would give no preferential treatment either to railroads or their competitors.

The Cabinet Committee recommendations, if enacted, would by no means end rate regulation. The Interstate Commerce Commission would still have power to deny proposed rates which would be above a reasonable



(Advertisement)



maximum or below a reasonable minimum, or below cost, or unjustly discriminatory. Shippers and the public would continue to be fully protected by the ICC against all abuses — including any possibility of a return to transportation “rate wars.”

Every kind of freight would continue to “pay its way” on the railroads, which would not be permitted to carry some freight at a loss that would have to be made up on other traffic. Such a practice would be contrary to the laws of economics, of common sense, and of the United States government.

There would be the widest opportunity for all forms of transportation to grow and prosper. Each form of transportation has its own natural market — because each has certain definite advantages over the others. Cabinet Committee recommendations would permit transportation management the right to offer the most efficient service possible — and shippers and the public the right to choose the one that fits their needs.

Thus, the principal factor in determining the “fair share” of traffic for each type of carrier would be competition, not regulation.

The growing public support for the principles embodied in the report of the Cabinet Committee results from the recognition that they concern not transportation alone, but the vital interests of every one of us. In short, Mrs. Kennedy's five pounds of sugar are *your* five pounds of sugar — and they represent everything else you buy as well.

* * * *

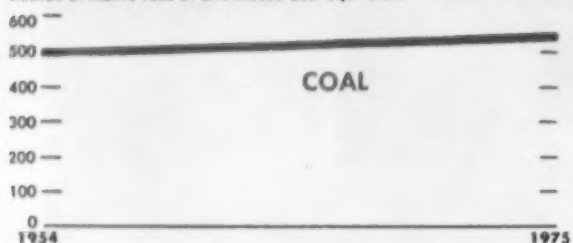
For additional information on the Cabinet Committee report and how it affects the American consumer, write for the free booklet, “Why Not Let Competition Work?”

Association of American Railroads, 925 Transportation Building, Washington 6, D. C.

West Europe Moves to New Energy



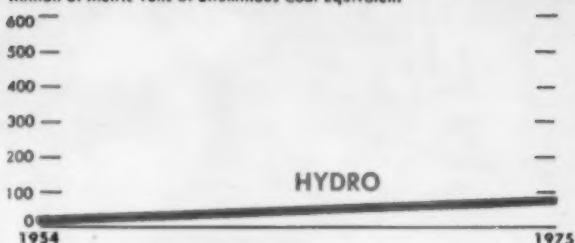
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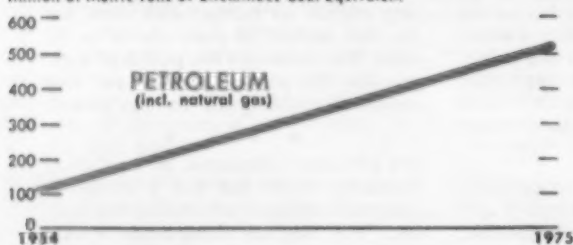
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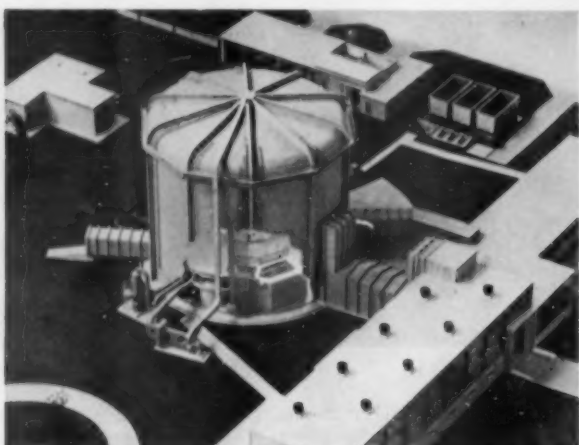
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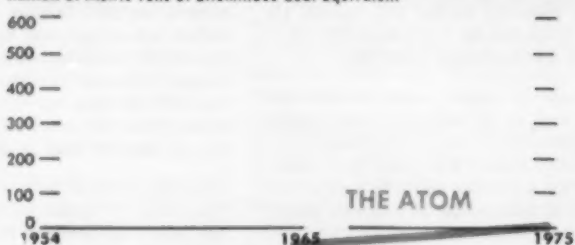
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. . . So Europe must now use far more oil . . .



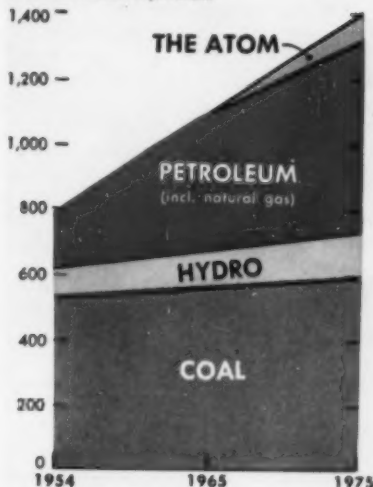
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. . . And push atomic power for the future.

Pattern

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By 1975—experts predict—Europe's consumption of energy will nearly double, with petroleum meeting the bulk of new demand.

IF A FUEL EXPERT is burning the midnight oil these days in one of Western Europe's economic ministries, chances are he is charting a growth curve that shows Europe's energy consumption almost doubling in the next 20 years. If a colleague in a foreign ministry, especially the British Foreign Office, is working overtime, nine chances out of 10 he's trying to figure how to ease the Middle East crisis.

• **Link**—The chart above and those on the opposite page give an idea of the kind of calculations that European fuel experts are making. The charts show that Western Europe's coal production has almost hit its ceiling, that hydro power can't be boosted very much, and that nuclear power is at least 10 years away. That leaves oil, and—to a lesser degree—natural gas, to meet increased demands in Western Europe. The main source for this oil is Middle East.

The charts are based on the assumption that the cumulative energy growth rate will be almost 3% a year. This means Europe's energy consumption—in terms of metric tons of coal—will rise from the 1954 level of 762-million tons to about 1.4-billion tons in 1975. That's an increase of 84%. Some experts put the cumulative growth rate as low as 2%, others as high as 34%, depending in part on the assumptions made about the over-all industrial growth that can be expected. (On the basis of the performance of the past few years, this



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This is the story of one of the many contacts made by Square D Field Engineers which resulted in increased production or reduced cost—or both



"Every time a conveyor gets stuck...so do we...to the tune of \$700 and lost production time!"

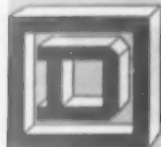
An eastern parts manufacturer's process depended upon a series of ingenious conveyors. They carried the materials into huge bake ovens, kept them there for an exact period, then carried them out.

But a vicious cycle of complications was causing heavy losses in time and material. The intense heat led to evaporation of lubrication which "froze" the conveyors. This in turn, overloaded motor circuits and blew fuses. By the time the breakdown was detected, materials stymied in the ovens were burned beyond salvage.

A Square D Field Engineer was called in. He studied the problem—solved it by the installation of a Square D circuit breaker designed to hold the circuit closed against minor "freezings" and give workmen an immediate visual warning of serious trouble. The device was immediately available from a Square D distributor's stock. The resulting saving in time and money was substantial.

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Field Engineers are available through Square D branch offices in all principal United States cities—and in Canada, Mexico and England. Backing up these engineers are the design and manufacturing facilities of 13 strategically located Square D factories and the localized services of a nation-wide network of authorized electrical distributors.



SQUARE D COMPANY

figure is usually put at 4% to 5% a year.)

• **Unanimous**—But there are no differences among the experts on these points:

• The foundation for Europe's further economic growth will be energy—what a 19th Century physicist called "the go of things."

• A rapid expansion in the use of oil—almost all of it imported from the Middle East—is the only economical way Europe can meet its energy needs until atomic power comes of age. Barring a catastrophe in the Middle East, oil will be Western Europe's big new energy source for the next 20 years at least, with U.S. oil companies playing as big a role in providing it as British and Continental oil firms.

• The required investment in energy will be staggering, especially in oil. The capital outlay in Western Europe itself (excluding the money to produce more Middle East oil for Europe and deliver it there) will run to at least \$6-billion. For atomic power, the outlay will be several billion.

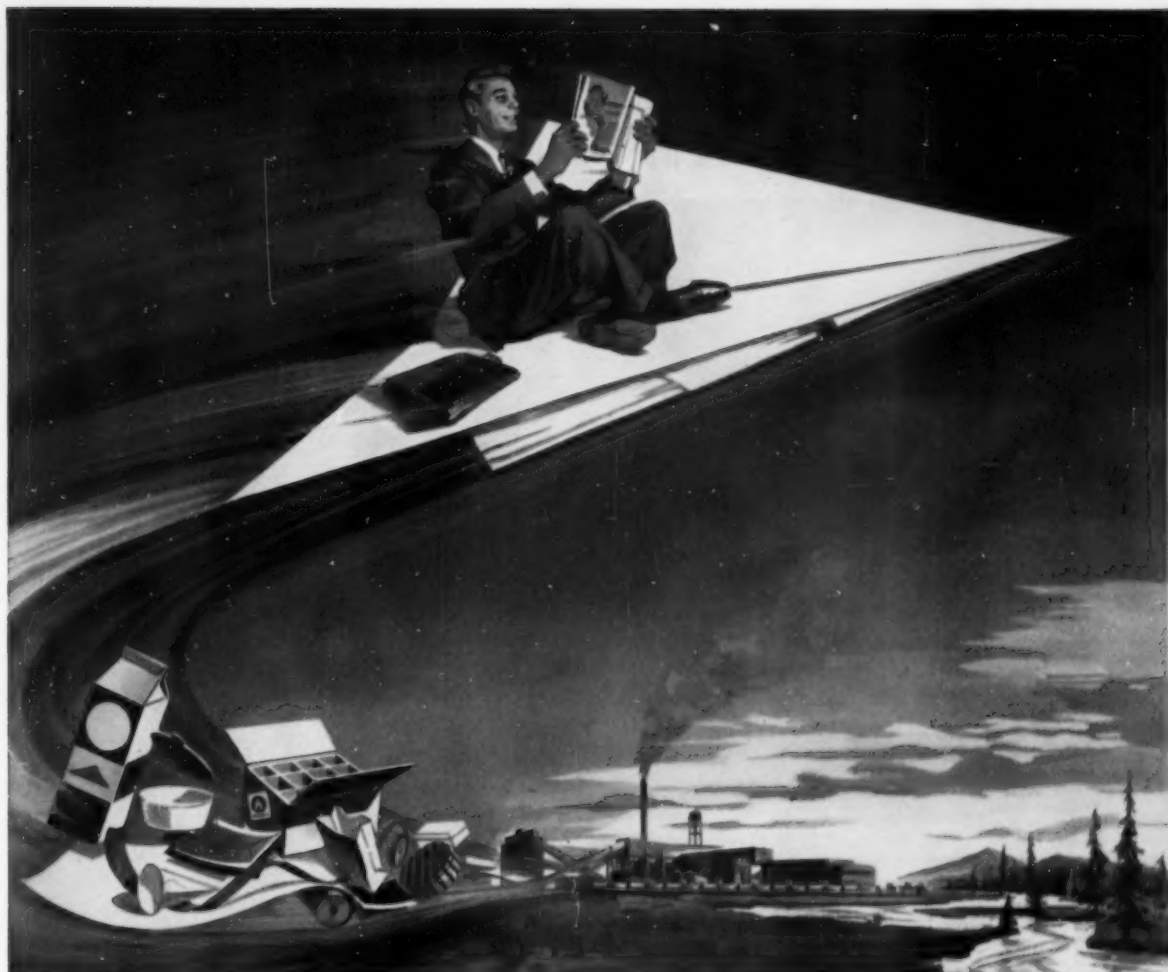
• There will be hot debate as to whether there should be some form of international control over energy developments—such as that exercised over coal production and distribution in six nations by the Coal & Steel Community. The debate already has started in the case of atomic energy. It is bound to come up some day with oil, though the "producing" countries like Britain and the Netherlands, which control Middle East production facilities, will fight international control to the bitter end. They will be backed by the big U.S. oil companies.

• **Oil Takes Over**—The most striking thing in this whole picture is the way oil is taking over from coal. For more than a century, coal has been the backbone of Europe's economy. It fueled the industrial revolution, and even as late as 1938 provided about 90% of Western Europe's energy requirements. Today it still supplies about 70% of these requirements, whereas oil supplies only 18%.

But by 1975, if the optimists are right, Europe will be getting only 43% of its energy from coal and some 41% from oil and natural gas. That will put Europe close to the position the U.S. reached in 1950, when coal supplied 39% of our energy, oil 39%, and gas 18%. The rest of Western Europe's energy consumption will come from hydro power (11%) and from atomic energy (5% to 6%).

• **The Line-Up**—Here's a quick rundown of the coal outlook and also that for hydroelectricity and atomic power:

Coal producers can eke out a few more million tons over the next two decades. Britain, a key producer, used to export coal in large quantities to the



PAPER and the world of Mr. Jones

For eighteen hundred and six years after a Chinese invented paper, no one did much of anything but write on it.

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Case Studies: TESTING METHODS



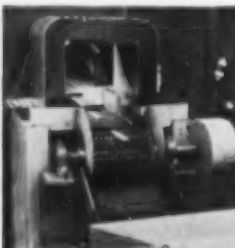
"GOOD TURN" INSURANCE pays off for the Todd Shipyards Corp., Brooklyn, N. Y. A portable Magnaflux unit is used to inspect for cracks in keyed taper of an 18" propeller shaft of one of the giant ocean-going vessels.

Extra Savings in Both Manufacturing and Preventive Maintenance Inspection

M methods pay "extra" dividends when used to inspect the products you make. These testing methods help pinpoint early defects in forgings, weldments, castings, bar steel and other component parts in the "rough" or finished state. It enables you to take corrective steps to eliminate their cause in the production process. You save the time, money and materials usually lost by processing defective parts and excessive scrap. By clearly showing the extent and seriousness of defects, M methods provide added benefits from salvage operations.

A "safety" bonus can mean more than dollar savings in a preventive maintenance inspection program. Early detection of fatigue cracks in a crane hook can prevent an accident which could cost lives as well as money. Magnaflux offers many complete, easy, quick, portable methods for "in plant" or "in the field" inspection of machinery and equipment.

Consider for a moment, the many ways M test methods can help you save "extra" in your present operations. Consult your Magnaflux engineer for specific information and examples of how M can help you produce better for less!



"Conveyorized" Magnaflux inspection is engineered for jet engine production line. Jet engine vanes are inspected at the rate of 5,000 or more a day. First step is magnetizing vanes. Conveyor moves vanes into inspection booth (above) where inspector watches for any accumulation of magnetic particles indicating longitudinal defects. After passing through a second ferro-magnetic bath and longitudinal magnetic field, vanes are inspected for transverse defects. Then they move automatically through a de-magnetizer.



Take Your Inspection Problems to the House of Answers . . .
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Continent; now Britain imports coal just to match its own needs. Economically and even psychologically, coal is in a declining position. The trouble is not just labor's demand for higher wages. It's also the fact that coal seams left to mine are deep in the ground, hard to get at, and often poor in quality. And in general, European mines are much less mechanized than U.S. mines.

What's more, an increasing amount of coal will have to be diverted from direct use as an energy source. Europe's expanding iron and steel industry, on which industrial growth hinges, will continue to eat up coke in bigger and bigger hunks. Western Germany, now third largest steel producer (after the U.S. and Russia), used 30-million tons of coke last year, expects to use 40-million tons in 1965.

To feed power plants and supply heat, in fact, European countries will have to import coal in increasing quantities. Coal Age, a McGraw-Hill publication, figures that U.S. coal producers can expect a 38-million-ton market overseas this year—most of it in Western Europe. This market will probably continue firm for at least the next five years.

Hydro power, not yet fully exploited, can add only a small fraction to Europe's total energy needs. By 1965, France should have 50% more hydro power. But Electricite de France, the government-controlled utility, is planning more thermal projects than hydro projects because they are cheaper to build (though costlier to operate). Even if Europe's hydro output should double by 1975, energy experts expect hydro power barely to hold its present position as 10% to 12% of Western Europe's energy source.

Nuclear energy is the big dream—and, in time, it may come true. Pres. Eisenhower's recent offer to sell or lease 44,000 lb. of atomic fuel to foreign countries will undoubtedly help to break the bottleneck in nuclear power development. Britain, deep in an \$850-million nuclear program, has already selected two sites—one near London, the other between Birmingham and Bristol—for atomic power stations. But Sir Harold Hartley, head of an energy committee formed recently by the Organization for European Economic Co-operation, figures that despite crash-program work, Britain won't be using atomic power much before 1965. Even by 1975—unless remarkable developments speed up European atomic programs—nuclear energy will contribute little more than 5%.

• **Oil Takes Over**—Oil is the real corner. All the experts agree on that. As an example of this trend, Britain's Central Electricity Authority is now converting 16 power stations from coal to oil. Last summer it signed one con-

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tract with Esso Petroleum Co., Ltd., for 200-million bbl. of oil over a 10-year period, a second contract with Shell, Mex & B. P., Ltd. for 19-million bbl. a year over a 12-year period.

Oil production in Europe is slowly growing—in Southwest France, Italy, the Netherlands, and Western Germany. Still, Europe has to look to the Middle East for 95% of its crude oil, and the percentage won't change much as consumption grows. Fortunately, reserves there are so big that, according to the best available estimates, they can meet any sharp rise in Europe's oil requirements. What's more, companies such as British Petroleum Co., Ltd., and Royal Dutch-Shell, and the big U.S. international oil companies are equipped to bring in increasing oil tonnage from the Middle East and to market it across Europe. War or chaos in the Middle East would drastically change this picture, of course.

Oil's advantage over coal is versatility. In most power and industrial applications, it can replace oil. It's also a more efficient fuel than coal.

Greater use of oil will undoubtedly bring some economies in Europe's power setup. Studies show that in past decades, European countries have increased their rate of industrial output without a corresponding increase in their rate of fuel input. For instance, Britain can get a 1% rise in output and national income with only a 0.7% increase in energy input. This ratio comes, in part, from improvements in equipment that burns fuels. A large part also comes from the increasing use of and dependence on oil.

Pricewise oil now has a slight edge on coal in Europe (though this isn't true in all places on the continent). Several European power authorities see oil prices rising in the next 20 years. But oil companies say they must ride up or down competitively with coal—or else lose the oil market to Western Hemisphere oil imports or to U.S. coal producers. One thing the big oil companies are sure of: Each expects to retain its percentage share of the European market in the years ahead.

• **Second String**—Natural gas won't be much of a factor in meeting Europe's fuel needs. True, Italy's gas fields produced the equivalent of 5.4-million tons of coal last year, will pour out 16-million tons in 1965. Then you have Bechtel International Corp.'s proposal to pipe natural gas from Iraq to Western Europe. But the fact is that this would supply each year the equivalent of only 6.5-million tons of coal. There's also a possibility of shipping gas from the Middle East in the liquefied state by specially designed tankers. But in the future—as now—natural gas will be marginal in Europe's energy pattern. **END**



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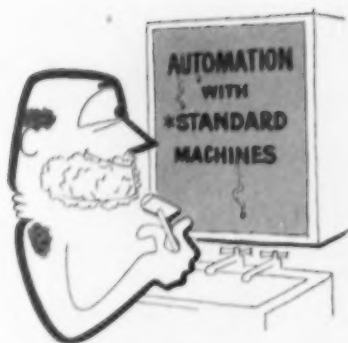
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In Business Abroad

• • •

Washington Thinks Everybody's Happy After Sale of Surplus Food to Indonesia

The Agriculture Dept. believes its \$96-million sale of surplus food commodities to Indonesia is a success from all angles. It is the biggest sale yet in the effort to get rid of U.S. surpluses overseas, and doesn't step too hard on the toes of other producers who sell in the Indonesian market. The State Dept. also is pleased. State believes the deal may go a long way toward furthering U.S. policy in Indonesia—one of Asia's most important neutrals.

The biggest chunk of the purchase—\$35.8-million—is for surplus rice. Indonesia will have a poor harvest this year. Agriculture worked out an agreement with Indonesia's two principal suppliers, Burma and Thailand, to let the U.S. fill one third of Indonesia's import needs.

The U.S. will take payment in local currency. And Djakarta has agreed to let us use this money in Indonesia for American economic development assistance to the Indonesian government.

Meanwhile the International Cooperation Administration is buying \$1-million worth of rice from Burma for neighboring East Pakistan, which suffered disastrous floods last year.

• • •

Communists Score in India, Bag \$11-Million Cement Order

The Communist bloc has scored again in its trade and economic offensive in India. Last week Soviet Russia, Romania, and Poland bagged an order to supply about \$11-million worth of cement—445,000 tons—to the Indians.

The Communists got the nod when their bids undercut the prices of India's traditional suppliers in Britain and Western Europe—by over \$2 a ton.

Bombay is predicting that the Communists soon may get even more cement orders from India. Imports this year are expected to total about 1-million tons.

• • •

Iran Seeks Boost in Oil Production To Balance Sagging National Budget

At least one Middle East ruckus has been settled quietly. Iran and the oil consortium that took over the country's oil fields more than a year ago (BW—Aug. 7'54,p26) have agreed to boost production quickly.

That's what Teheran has been pushing for. Originally, the consortium and the Iranians agreed that the country's oil production should be brought back into the world market gradually. That was an effort to keep Iran's oil from upsetting world markets, which had learned to get along without it during the almost three years Iran's fields were out of production. Under the plan, the con-



TOO ATTRACTIVE TO DROP



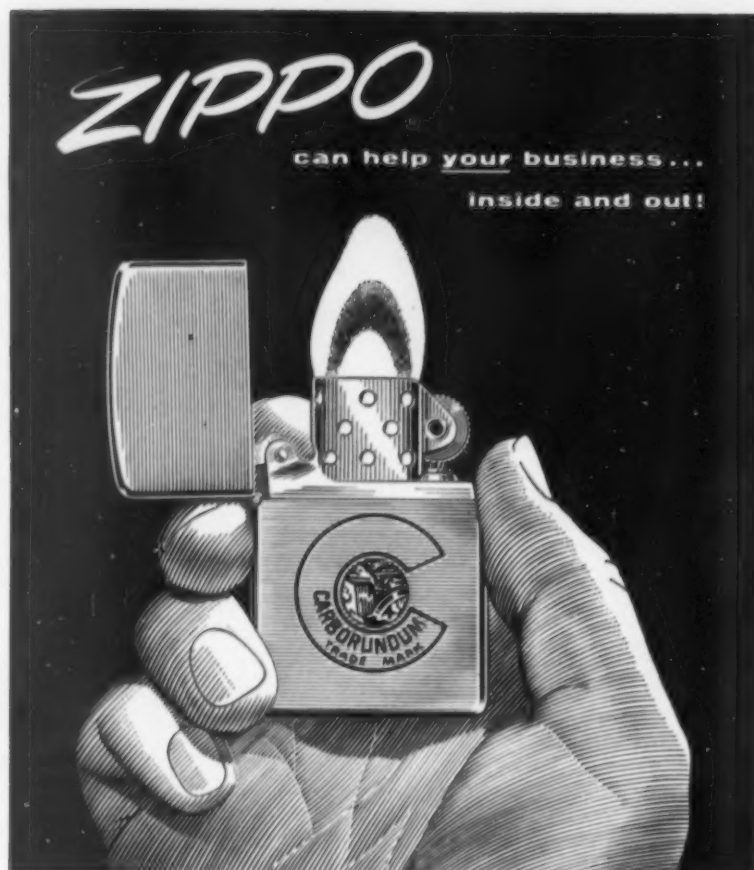
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sortium was supposed to produce 15-million tons in 1955, 23-million in 1956, and 30-million tons next year.

But the Iranians have been asking for a 10-million-ton boost over this year's quota. The reason: They need the extra revenues to balance their sagging national budget.

Last week, a consortium spokesman said it would "make special endeavors to improve quantity" production at the Iranian fields. Industry sources are guessing that statement means a 5-million-ton boost. That's about the maximum possible until construction of pipelines, and new port and other facilities are completed at Abadan.

• • •

Business Abroad Briefs

General Tire & Rubber Co. is reported negotiating an agreement with Metzeler-Gummiwerke, a Munich (West Germany) firm for a swap of 25% of the German company's shares for General's licenses.

U. S. investment in Brazil—which now totals about \$1.1-billion—should double in coming years despite the country's present unsettled conditions. That's the opinion of Robert F. Boomer, a member of the American Economic Mission there.

Nigeria, the British colony in West Africa moving toward dominion status, will shortly send a delegation to the U.S. in search of American investors.

Sweden's left-hand traffic won't change. A proposal to switch to right-hand right-of-way was defeated overwhelmingly in a nationwide vote following a campaign in which the government appropriated \$500,000 to be used equally by proponents of both sides.

Israel's oil find (BW-Oct.1'55,p 130) should produce at least 3.7-million bbl. of oil, according to Dr. H. J. Tchopp, the Swiss geologist who is directing operations.

Lufthansa, the German airline (BW-Oct.23'54,p140), has been promised delivery of three or four Boeing 707 jet transports as soon as other carriers, according to German circles. That would mean the German airline might get into the big leagues of international competition faster than has been predicted.

AT THE LARGEST UNDERGROUND MINING OPERATION IN NORTH AMERICA . . .

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Getting the ore out rapidly, safely and efficiently in bitter winds and temperatures of 30° below zero calls for rugged, dependable haulage equipment. General Electric mine locomotives—seven 20-tonners—operate round-the-clock to keep the ore continually streaming from the Climax mines.

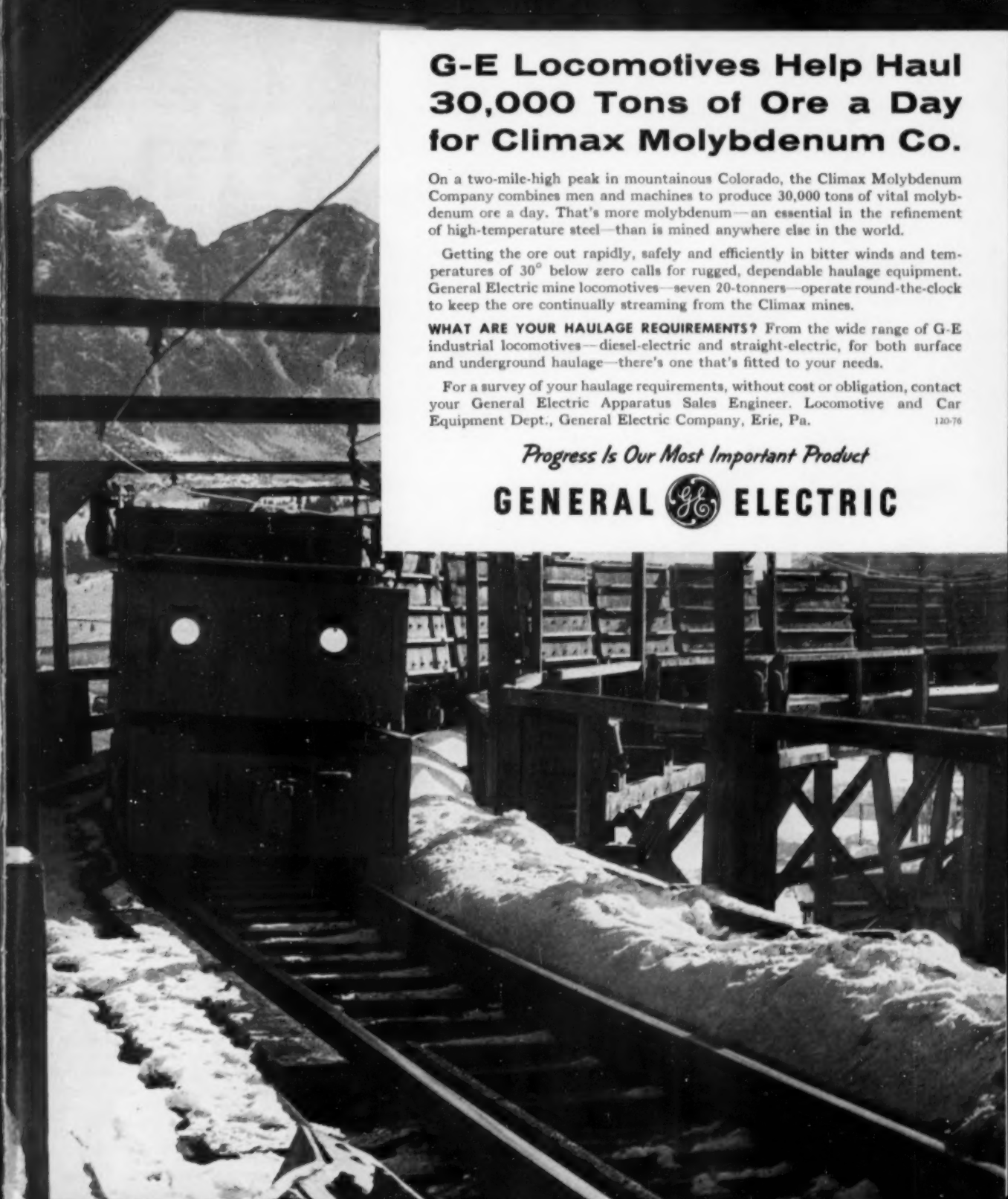
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Bahamas Want a Genteel Boom

● The islands, basking in 72,000 square miles of sunny ocean, are enjoying tourist influx, plus American capital aiming at industry, too.

● The 90,000 inhabitants think this is fine, but they're beginning to wonder about side effects.

● Some would like to keep the icing of exclusivity while eating the cake of new prosperity.

On stormy nights, so the story goes, the hardy 17th Century settlers of the Bahamas would move the beacon lights that warned ships of the shoals and coral heads that lurk in Bahamian waters.

The resulting shipwrecks provided both visitors and treasure, and helped a poor, young island colony to survive.

The beacons remain. But they are bolted down, and guide squadrons of planes, cruise-ships, and yachts to safe landing. The treasure mounts up. Suddenly, descendants of the original settlers find their subsistence economy being transmuted by the alchemy of boom.

Sun, sea, stability—and almost no taxes—attract the visitors. And they include individual and corporate investors as well as tourists.

• **Residential**—This week, Miami's Lindsey Hopkins, Jr. (director of Coca-Cola, Sperry-Rand, and others) and the Carl G. Fisher Corp. (the original developers of Miami Beach) announced what is probably the Bahamas' largest real estate venture—a multimillion-dollar club and residential development a few minutes drive from the colonial capital of Nassau. The first \$3-million worth of work will be completed, the first facilities operating, sometime early in 1957.

E. P. Taylor, Toronto tycoon (Argus Corp.), confirmed last week that he has just bought 2,800 acres not far from the Hopkins-Fisher project. Outsiders guess Taylor plans another real estate development for the well-heeled.

• **Free Port**—Wallace Groves—an American with a private island home, and a thriving lumber business in the Bahamas—reports that heavy equipment is moving into Grand Bahama I. to start building a Bahamian free port, to be known as Freeport. Groves plans a shipyard and a light industrial development there, holds out to foreign investors a series of special tax inducements.

Elsewhere among the islands:

Axel Wenner-Gren, the fabled Swedish financier, has just opened a new wing of his plush club on Andros I.

William Price (Chicago's Union Stockyards) has a new cattle project on Eleuthera I., not far from the resort-plus-agricultural venture of Alcoa's Arthur Vining Davis.

Advertising man Louis Wasey continues to welcome paying—but always very exclusive—guests to his Cat Cay club.

Another advertising executive, named Jack Coffey, leads a group of Connecticut businessmen who have begun to develop a 1,400-acre cay (pronounce it "key") in the Berry Islands.

There are dozens more putting money into the Bahamas, money that is subject to no income tax and no inheritance tax, and only a small tax on developed property. And along with them there's a bumper crop of tourists.

During January and February, tourist traffic was up 19% over last year. In six years, the number of vacationers has jumped 313%; colonial revenues have nearly tripled; and proud, self-governing Bahamians who ran an average yearly dollar deficit of \$5-million six years ago, turned over in 1955 a \$9.2-million profit to the sterling area dollar pool in London.

• **... And Alarmed**—Bahamian leaders are at once delighted and slightly appalled by all the excitement. They are concerned about the colony's ability to meet increasing demands for water, power, harbor facilities, and the like. They wonder if a development like Freeport, with its industrial emphasis, won't change the fundamental "character" of the islands. They note beginnings of political restlessness, even some racial frictions, among the colony's Negroes, some 80% of the island's 90,000 population. Here and there, you hear worries that the islands will become "honky-tonk" as the tourist horde descends.

If it's to be boom, say the Bahamians, let's keep it as genteel as possible. Above all, let's keep it durable.

• **Earlier Times**—The British settled the Bahamas in the late 16th and early 17th centuries (Columbus was the first visitor in 1492); soon they were growing some of the world's finest sea-island cotton there. But the opening of more productive areas, and soil depletion on the sandy limestone islands, ended the cotton boom.

Later, Bahamians made two substantial, though brief, killings—both at the expense of the U.S. During the Civil War, Nassau was the supply base for the Confederacy. During the 1920s, the Bahamians made a good thing out of Prohibition in the U.S., by supplying liquor of all kinds to American bootleggers.

While the colony has had winter visitors since the turn of the century, the Bahamian government never felt that tourism held much importance for the colony. Never, that is, until 1949. Then the Bahamas began all-out tourist development.

Stafford L. Sands, a burly, expansive, and shrewd lawyer (his family came to the Bahamas in 1660s) led the Bahamas Development Board into an aggressive, well-organized campaign to make the Islands a year-round resort. Timing was good. Prosperity, increased leisure, the search for a "different" vacation spot sent tens of thousands of new U.S. visitors to the Bahamas.

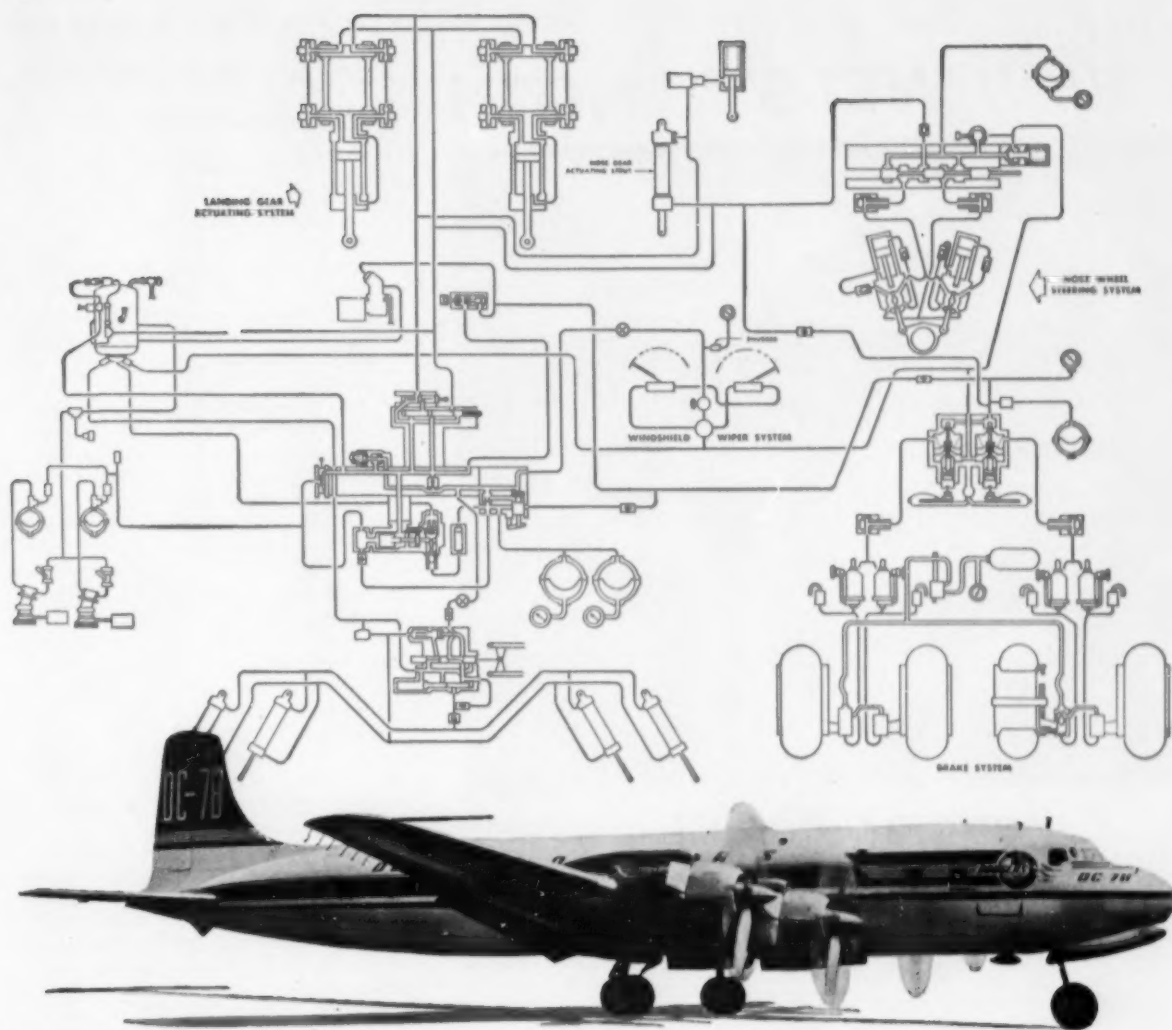
"If you want tourists," says Sands, "you have to go out and buy them, just like any other commodity. Bahamas Development Board spending on promotion and advertising has risen from \$182,050 in 1949 to something like \$1.3-million budgeted for 1956. Yet, cost per visitor has dropped from \$10.50 six years ago to \$8.73 last year as 132,000 tourists arrived in the Bahamas.

If all goes well, that might help "buy" approximately 160,000 visitors this year.

• **Too Few Jobs**—Despite the tourist influx, the Bahamas would have substantial unemployment if they didn't send 4,000 to 5,000 migrant workers each year to the U.S. South. And while Bahamians realize that tourism must be the main prop of their economy, they worry about too great a dependence on it.

You can count other Bahamian industries on one hand. The largest operations are Wallace Groves' timber on Grand Bahama and the sea water evaporation plant of Morton Salt on Inagua.

Bahamians like to speculate about



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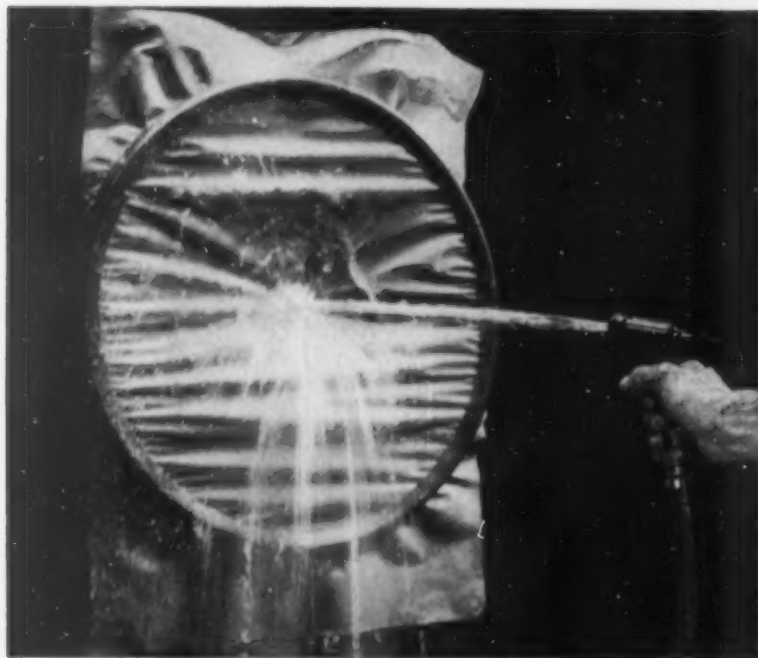
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"... the spot is ideal for many businesses involved in international trade ..."

BAHAMAS starts on p. 152

oil, noting that three major oil companies each year renew concessions in the Bahamas, hoping that some day it will pay them to drill.

The colonial legislature passed an "industries encouragement" act in 1951, but few industries seemed to be "encouraged."

• **Tax Benefits**—Now all eyes are on Wallace Groves. A millionaire Virginian and an astute investor, Groves has long looked for useful—and profitable—Bahamian ventures. Last year, he convinced the governor—the Earl of Ranfurly—and other leaders to sell the colonial legislature on a plan to establish an industrial community and free port on Grand Bahama I. Approval last June was unanimous. A Grand Bahama Port Authority was set up—with Groves as sole impresario—with a sackful of tax benefits for businesses that would come to "Freeport."

For 30 years, businessmen need pay no income tax, no capital gains tax, no real estate tax, and no personal property tax.

For 99 years, the Bahamas will levy no excise taxes, no customs duties on imports (save those for personal consumption), no stamp taxes. The spot is ideal, says Groves, for many businesses involved in international trade—in light manufacturing, assembly, what-have-you.

Key to Groves' hopes is D. W. Ludwig, the New York tanker tycoon (National Bulk Carriers, Universe Tankships, etc.). Ludwig is reputed to have well over 1-million tons of shipping in his own name, and for five years has leased and operated a huge shipyard in Japan to make tankers. While Ludwig keeps mum about his plans, he is apparently going ahead with a commitment to dredge a deep water harbor (the Bahamas' first) at Grand Bahama. Then he is expected to build a ship repair and shipbuilding base there. There's talk that someday, Ludwig will be building supertankers at Freeport—and shipyards on the east coast of the U.S. are anxiously watching for developments on Grand Bahama.

Ludwig is reported to be interested also in a chemical lime plant. Meanwhile, Groves has been dickering with other potential recruits to his Freeport—an American drug company, and English china firm, a cement plant, a flour mill, even an oil refining outfit. The lure, of course, is a taxfree haven right on North-South shipping lanes,



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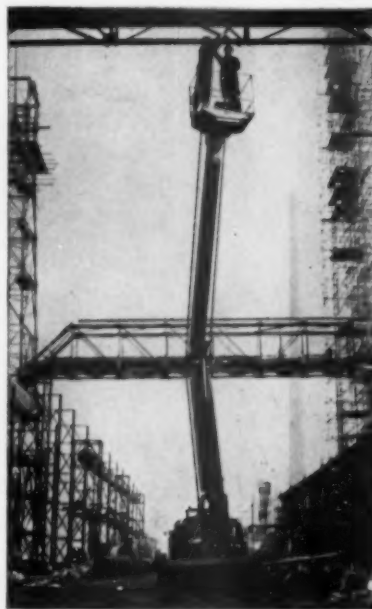
"... the lure is a tax-free haven right on the North-South shipping lanes ..."

BAHAMAS starts on p. 152

80-odd miles from Palm Beach, in a stable and conservative political atmosphere.

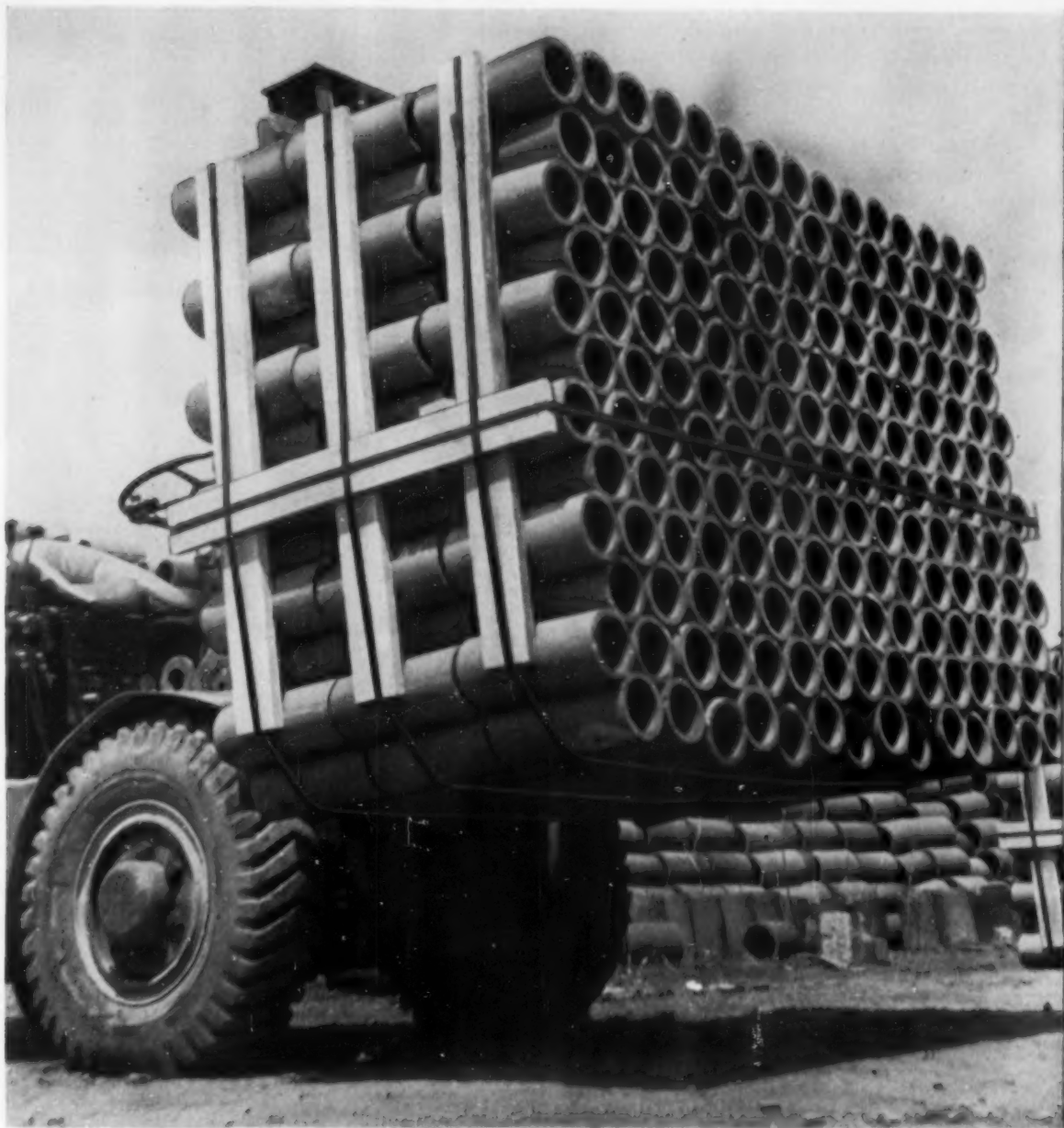
• **Within Bounds**—Bahamians are watching, fingers crossed. They welcome the kind of economic fillip a successful Freeport could bring. But they hope it will "stay on Grand Bahama." They aren't particularly anxious to publicize the colony's potential as a "tax haven," though there are several dozen corporations in international trade that use Bahamian registry for subsidiaries.

In the end, what they like best are plump vacationers who come for a week or two, and go home poorer by the sum of hotel and taxi bills, and laden with the liquor, perfume, English woolens, and sun tan that keep the Bahamas in business.



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You need no scaffolding when you use this 40-ft. hydraulic hoist for industrial repairs and construction, according to its makers, Simon Hydraulic Machinery, Dudley, England. The unit, with space for two men on its platform, rises from a mobile base. On the platform are controls that raise or lower the boom. The hoist will be shown at the British Industries Fair, Apr. 23 to May 4.



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Sweden's New Sedan...



... and Sport Racer

These two cars are Sweden's entry in the contest for the "second car market" in the U.S. Both are made by Volvo Corp., Gothenburg—Sweden's largest auto maker and second largest metal-worker.

The PV-444 (top) is a 4-passenger sedan, has an overhead valve, and a 4-cylinder, 70-hp. engine capable of getting 35 mi. per gal. of gas.

The Volvo Sport (bottom) has a plastic body with a canvas top, and a 70-hp. engine that can hit a top speed of 100 mph.

Volvo began testing the PV-444 on West Coast customers last summer. Now it plans to launch a nationwide drive to sell the car—beginning with the International Motor Show in New York Apr. 28 to May 6. Volvo makes about 500 of this model a month for export.

The sedan will sell for \$1,995. That's more than \$400 over the price of Volkswagen, whose success in the U.S. market Volvo obviously is trying to copy (BW—Apr. 9'55, p140). Volvo hopes to sell 10,000 a year when it gets going. Auto Imports, Inc., a Los Angeles company that was set up to market the cars, sold about 100 during the last quarter of 1955.

The Volvo Sport originally was intended for export only, but it caught on so well at home that the present one-a-day production is being absorbed in Sweden. Volvo expects to boost output soon, for a try at the U.S. market. In Sweden, the racer sells for nearly \$4,000. **END**



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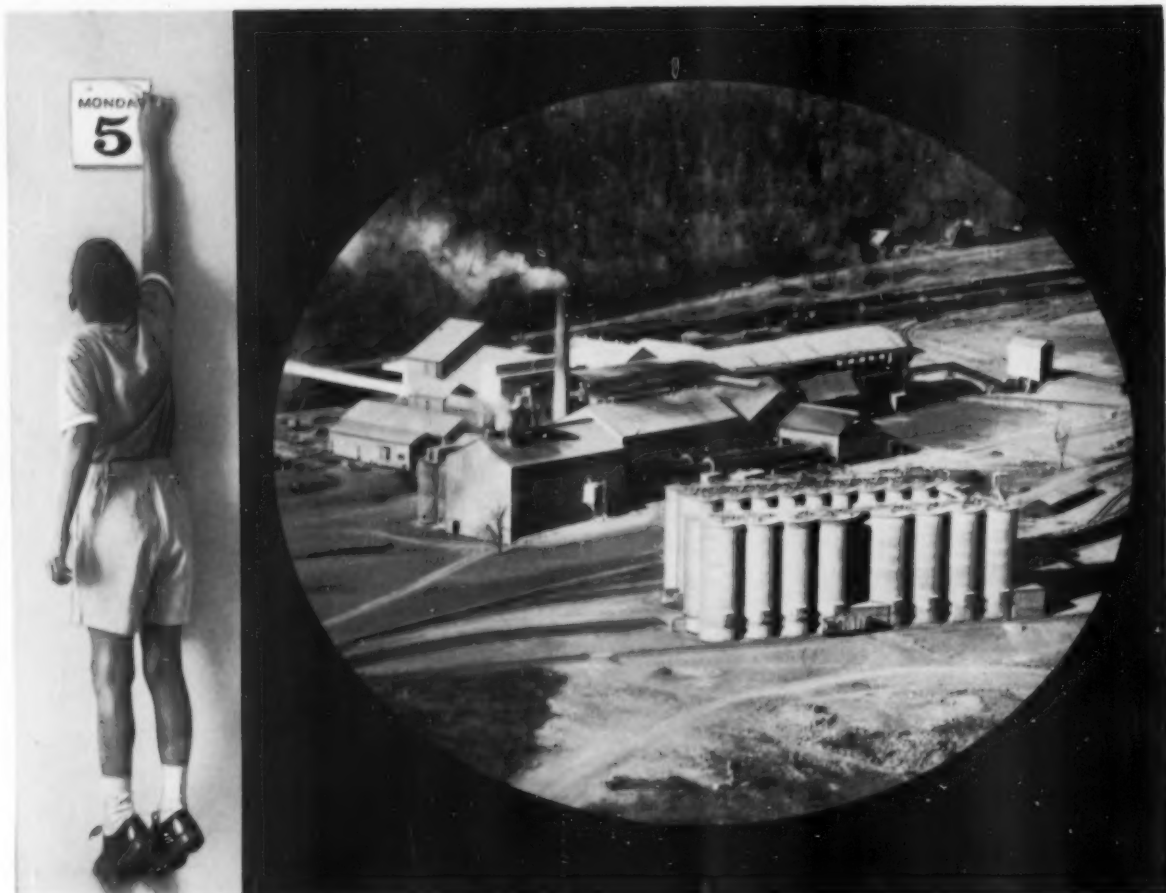
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INTERNATIONAL OUTLOOK

BUSINESS WEEK

MAR. 17, 1956



The Mediterranean has become the soft underbelly of the Western alliance—as it was for the Axis during World War II.

French and British power there has declined rapidly. And they haven't been able to stem the tide. This has gone so far that it is now threatening the foundations of the North Atlantic alliance. NATO's position—particularly in Greece and Turkey—has been weakened.

If the process goes on, the whole of Western Europe's defense against Communism could be undermined. Already, the U.S.'s relations with Western Europe have been strained.

Here, in brief, are the latest developments:

- Britain and France are working out a joint policy toward the Arab world, with little regard for Washington's opinion. They are burying historical differences and trying to find common ground for meeting the French problem in Algeria and the British problem in the Middle East.

- The Eden government has cracked down in Cyprus, the last British military bastion in the Eastern Mediterranean. By deporting Archbishop Makarios, leader of the Cypriot "union with Greece movement," London pleased Turkey (there is a Turkish minority in Cyprus) but almost ruptured its relations with Greece.

- French Premier Mollet is following the same get-tough policy in Algeria. He has Assembly approval for an Algerian program that features military action against the Algerian terrorists. It's a question, though, whether this policy will produce results. If it doesn't, the growing political crisis in Paris may weaken France to a point where, for all practical purposes, it will be out of NATO.

- Premier Nasser of Egypt continues to push his anti-Western policies. Last week he played host to the leaders of Syria and Saudi Arabia, got their backing for his ambition to head an Arab union stretching from the Persian Gulf to Gibraltar. The three Arab leaders announced what Nasser privately had told British Foreign Secy. Selwyn Lloyd a week earlier—that the Western powers had better stay out of the Arab-Israel conflict.

Things have been moving so fast that Washington hasn't had a chance to catch its breath. It's far from certain that U.S. officials will agree with the British and French contention that an integrated Western policy in the Mediterranean has become absolutely essential. Washington may still feel, as it does today, that it's better to deal with each problem separately.

But there is no blinking the fact that lack of a common policy has led to the direct clash of U.S. and British policies in Cyprus. And it's possible that a similar clash will result from the growing divergence between London and Washington as to the game Premier Nasser is playing—and how to handle him.

The British, and also the French, are almost convinced that Nasser's ambitions make peaceful settlements impossible both in Algeria and in Israel.

U.S. policymakers, by contrast, feel there is still a good chance to steer Nasser into a moderate course.

U.S. foreign aid policies are undergoing an intensive review. Pres. Eisenhower has ordered his aides to come up with a hard-hitting program to meet the Soviet economic offensive.

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK
MAR. 17, 1956

At least four working groups, including Joseph E. Dodge's Council on Foreign Economic Policy, are studying a long-run problem of U. S. aid.

When Secy. of State Dulles returns from Asia, the aid review will shift into high gear. Soon after he gets back, the National Security Council probably will get in on the act.

Already under discussion are such problems as: the balance between military and economic aid, policy distinctions between neutrals and allies, what strings to tie to aid, how far to back India's Second Five-Year Plan, a possible big new program for Africa.

Until these questions are settled, the foreign aid program that Eisenhower plans to send to Congress this week will act as a stopgap.

Meanwhile U. S. farm surpluses are being put to work on a sizable scale to help Asian economic development.

Last week the Dept. of Agriculture sold \$96-million worth of surpluses to Indonesia (page 148). Agriculture is taking payment in local currency, which the U. S. then will put into Indonesian development projects.

Plans are about completed for a big transfer of surpluses to India. Most of these would be stockpiled as a famine reserve, thus allowing India to use more of its foreign exchange reserves on the Second Five-Year Plan. Much of the Indian currency received by the U. S. for the surpluses will be ploughed back into the Indian economy.

Communist Party boss Khrushchev has taken to the warpath again—with a reform of Russia's collective farm system. He is out to destroy the last remnants of individual farming in Russia by eliminating the private plots of the collective farmers.

Khrushchev made a move in this direction with his "agragorod" plan of 1950, only to have it backfire. This scheme was to resettle Russian peasants in agricultural cities, far from their private plots.

Under Khrushchev's new "reform," the peasant won't be removed from his private plot by the state, but by his fellow collective farmers. Here's the story.

In the past, the collective farmer got more than half his cash income from selling the produce, including milk and meat, from his private plot. The rest he got from a yearend lump-sum payment out of the farm's total profits. Now the peasant must turn over his cattle to the farm. He will get the great bulk of his income from a monthly advance against his share in the total profit. Profits will be boosted by higher prices from the state.

As Khrushchev figures it, this system will create a sizable group in every collective that will be far more interested in monthly advances than in what little can be earned from growing vegetables in private plots. This group will force everyone on the farm to follow its example. If the others don't, they will be expelled—and all their property, including cattle, will go to swell the earnings of the dominant group.

What Khrushchev is trying to do is create a class of aggressive, party-minded farmers out of the millions of Russian peasants who still cling to their little bits of land. But Khrushchev is sure to meet resistance from these land-loving peasants. They may not let him get away with his plan.

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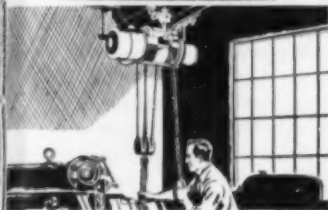
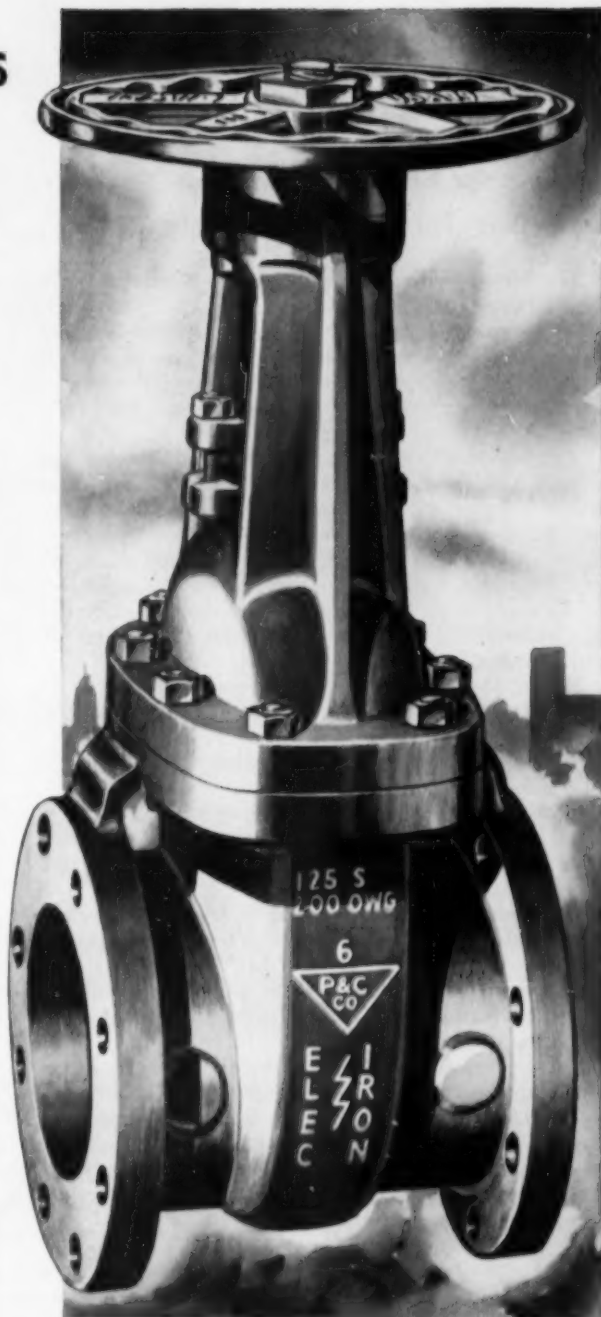
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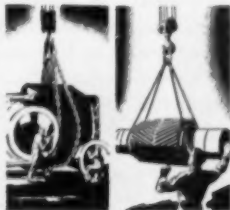
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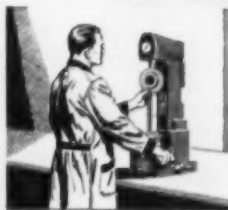
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In Washington

• • •

No Drop for Corporate Tax Rates Or Excises—But Maybe Some Shifts

The House—with only four “nays”—voted this week a \$3.2-billion tax bill.

It's the measure to postpone for 12 months the drop in corporate rates and excise taxes that, as of now, is scheduled to take place Apr. 1. Passage of the bill by the Senate and approval by the President is practically certain.

The House bill continues the corporate income tax rate at 52%, and maintains present excise rates on a whole string of items—liquor, cigarettes, gasoline, automobiles, trucks are among the principal ones.

Meanwhile, proposals for some “technical changes” in the excise tax structure got started on the legislative road. A House Ways & Means subcommittee made the proposals, which would bring relief for some taxpayers and increases for others.

Among the subcommittee's recommendations:

- Tape and wire recorders and record players should bear a 10% excise for the first time.

- Transistors that replace radio tubes should bear the 10% excise tax now paid on tubes.

- Gas-operated garbage disposal units and vacuum cleaner attachments for waxing floors should bear the same 5% manufacturers' excise as electric disposers and floor waxers.

- A 1¢-per-lb. added tax should be levied on tubeless tires to offset the fact that users don't pay the 9¢-per-lb. excise on tire tubes.

- Parochial and other non-profit schools and colleges should be exempt from manufacturers, retail, and communications taxes.

These proposed changes got the solid backing of the subcommittee. Another proposal was only recommended for consideration by the full Ways & Means Committee; this was to reduce the 20% cabaret tax to 10%. The subcommittee, however, did recommend exemption from the cabaret tax for “milk bars” where no liquor is sold and where jukeboxes supply the music.

• • •

Railmen's Tax Exemption Gains But Treasury Shudders at Loss

Congress apparently is ready to drive an opening wedge for exempting employees' pension contributions from personal income tax.

The entering wedge is tax exemption for railroad retirement contributions. It's part of a package the House Interstate Commerce Committee is considering for increasing these contributions and the resulting benefits.

Rail union leaders say House Speaker Rayburn and Senate Majority Leader Johnson will give the bill a green light. It's sponsored in the upper house by Sen. Walter

George (D-Ga.) and Sen. Lister Hill (D-Ala.); Hill is chairman of the Labor Committee that will handle it.

Support has been gaining in recent years for some tax incentive to encourage saving for old age. But the Treasury has stood fast against any tax concession, and its watchdogs oppose particularly the broad relief provision in the Railroad Retirement Bill. Treasury Secy. Humphrey estimates the rail union's bill would cost the Treasury \$70-million a year.

Humphrey's main concern, however, is the vastly bigger bite if such tax exemption were extended to Social Security, civil service, and private pension plans. Exclusion of the Social Security tax paid by employees, according to Humphrey, would cost between \$600-million and \$700-million in income taxes.

• • •

GSA Gets Set to Ask Bids On Lease-Purchase Deals

Builders and investors will get their first chance around the end of this month to bid on lease-purchase building projects of the General Services Administration (BW—Oct. 15'55,p110).

Plans are about completed for four or five contracts, and a half dozen—ranging in size from \$1.5-million to \$5-million—will be awarded by summer. Most likely to go out first for bids are federal buildings in Council Bluffs, Iowa, Rock Island, Ill., and Green Bay, Wis.

GSA's Public Buildings Service will invite separate bids from contractors who will do the construction work and from investors who will put up the funds—but combination bids including both construction and financing will be accepted. For each project, GSA will make awards to separate bidders or to a combination bidder on the basis of lowest net cost to the government—which will lease the buildings, pay for them on the installment plan.

• • •

Suggestions for GM Spinoffs Get No Cheers From Company

General Motors Corp. is still getting a lot of free legal advice from Washington.

- Antitrust chief Stanley N. Barnes offers the suggestion that GM might voluntarily split itself up. Barnes argues that GM could ease any undue concentration in the auto industry by setting up one or more of its car divisions as independent companies—or by getting rid of its financing, truck, or Frigidaire divisions. Barnes—who's awaiting Senate confirmation for his new job as a federal judge—hints the government has one antitrust suit ready (charging that GM's share of the bus business is a monopoly, with 70% to 80% of the total) and may take other action if auto concentration continues.

- Sen. Joseph C. O'Mahoney (D-Wyo.), who headed last fall's special Senate study of GM, also suggests that GM wield its own corporate pruning shears. He thinks its financing division (General Motors Acceptance Corp.) would be a good place to start, supports Barnes' view that lopping off some others—such as bus, truck, Frigid-

aire, or diesel units—would benefit the economy.

So far, however, GM doesn't seem inclined to act on the advice. GM Pres. Harlow H. Curtice called Barnes' proposals "nonsense."

• • •

Auto Makers Get Last Word In Reply to Dealer Gripes

The investigation under Sen. Mike Monroney (D-Okla.) into auto marketing practices and dealers' complaints against manufacturers came to an end this week—at least until after Easter.

Closing out the hearings, the subcommittee heard from General Motors' Pres. Harlow H. Curtice and Ford Motor Co. Pres. Henry Ford II.

Curtice described for Monroney what he called GM's new "quality dealer program (BW-Mar.3'56,p104). Curtice said GM is taking steps to eliminate objectionable marketing practices—such as price-packing, bootlegging, and bait advertising—and at the same time to offer its dealers more franchise protection. He cited the election last week of Ivan L. Wiles to the newly created post of executive vice-president in charge of dealer relations (BW-Mar.10'56,p29) as an example of how GM's new approach to its dealers is being worked out.

Monroney praised Ford's denunciation of price-packing and bootlegging practices, and Ford's crackdown on dealers who engage in extravagant or misleading bait advertising. But he had a question for Ford, too. Monroney wanted to know whether the "happy marriage" that Ford says exists between his company and its dealers wouldn't be even happier if Ford followed GM's example and named a vice-president in charge of dealer relations.

Ford said that only 28 of his company's 6,300 dealer franchises were canceled or dropped last year. On Monroney's point about the need for a dealer vice-presidency, Ford quipped, "What's good for General Motors isn't necessarily good for Ford."

The Monroney hearings started in January, as a follow-up to disclosures of dealer gripes at the time of last fall's GM hearings, when the auto makers' present intensive wooing of dealers began.

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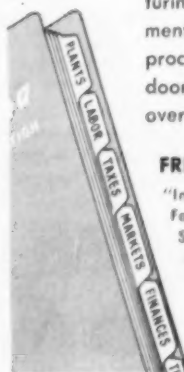
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THE MARKETS



Up Through Another Roof

After last Monday's market closed, more than one Wall Streeter paused a minute for a glance at the new landmark just built into stock market history. The fabled "500 on the Dow-Jones" had become a reality—and Standard & Poor's index, with 50 industrials in it, was then less than a point away from 500 (chart).

Not many Streeters continue to look all the way back to 1929 for their benchmarks—as a second runner, that bull market has now fallen pretty far back of the 1949-1956 bull market. But 500 does represent a new bull market high (and incidentally, of course, an all-time high); so the nature of the market's push into this historic ground came in for some scrutiny.

The fact that there was so little hoop-la about the hitting of the 500 mark reflects the general feeling that it was something that should have happened a long time ago. Just as the eclipsing of the 1929 highs some time back was regarded coolly by most experienced Streeters, so they took the new record as just another benchmark that required a moment's reflection, perhaps, but little more.

• **Bullier**—The stock market up to mid-week looked more bullish than at any time since the post-heart attack recovery in November of last year. Last Friday was easily the bull market's best day this year. Volume was good, with 3,430,000 shares traded on the day, much higher than the daily average for the year so far. (Over-all, 1956 volume is running around 50-million shares behind volume for the same period of last year.)

Friday saw 761 individual issues advance out of a total 1,200 traded, representing both the broadest market and the broadest advance of the year. There were 99 new 1955-56 highs scored, only half a dozen new lows. All told, it was a day to gladden bullish hearts.

Monday, the day of the breakthrough, was nearly as good. Slightly more issues traded, but fewer issues advanced and 120 more issues declined on Monday than on the previous Friday. Standard & Poor's 50 industrials were up 4.79 points on the day compared to 6.82 points on Friday, and volume, although under Friday's, was still over 3-million shares.

Tuesday was marked by profit-taking and a less-than-one-point decline in industrials on lowering volume. Bulls termed it a "day of consolidation"—and Wednesday's strong opening seemed to bear them out.

The bull market advance over the past week has been felt in all indexes, with the carefully watched rail index finally "confirming" on Wednesday the industrials' new high by scoring a new bull market high of its own. Utilities are also bumping new highs.

• **Impetus**—There's no doubt that the major source of fuel for the newest bull market breakthrough was Pres. Eisenhower's decision to make the race in November. After the initial hesitation following the decision, the market has picked up momentum rapidly. Particularly noticeable has been a sharp upturn in the amount of institutional purchases.

Other factors besides the Eisenhower decision have also been working on the market though—and one of the strongest right now is the fear of inflation (page 27). Within the past week, tinplate and brass prices have gone up, along with some other fabricated metals, and many Streeters feel that steel prices will have to be increased to meet union demands in June.

• **Selective**—Inflation worries are mirrored also in the growing preference for stocks with "assets in the ground." Bituminous coal has been a market leader for some months and continues to outpace most other industrials. Coppers, aluminum, and oils have been market leaders, too. Paper, with the bulk of its assets at least rooted to the ground, could also be included in this group.

But these groups, along with a handful of others, such as industrial machinery, office equipment, glass, and electrical equipment, are the only ones that show fairly broad strength. More and more, market analysts are harping on the selectivity of the market. As one investment trust research head put it, "If you think the market has been selective up to now, just watch it from here on out."

• **It Depends**—Within groups other than the few leaders, you can see miniature individual stock markets. Autos, not including General Motors, are 25% off their bull market high. With GM counted in, the group is only 11% off its high. In the chemical group, this situation is reversed. Including du Pont, chemicals are 2.4% off their 1955-56 high, but without du Pont they are right at their high.

Even within leading groups, such as coal or oils, if you bought the wrong stock at the wrong time, you could find either that your gains aren't so good as the group as a whole or that you actually have a paper loss in the issue.

Wall St. Talks . . .

. . . about Anaconda's rise . . . an odd coupling . . . Sears' biggest shareholder . . . Toronto's busy stock exchange.

The rocketing of Anaconda shares from \$63 a month ago to \$81 early this week was helped by a spate of Street estimates—that earnings this year would hit \$13-\$14 a share, compared with 1955's \$7.75; that profits in 1957 could go clear up to \$15, if copper prices held up; that profits could be \$9-\$10 even if the price slumped to 35¢ a lb.

Public relations-conscious Streeters were shocked last week by General Shoe Corp. The company announced—simultaneously—a 20% rise in its quarterly dividend rate (after a stock split), and a 5% price boost for its fall line of shoes.

Biggest stockholder in Sears, Roebuck is its employees' savings and profit-sharing fund. At the yearend, the fund held 18,805,506 shares of Sears, 25% of all issued. The holding was then worth \$667-million, accounting for 79% of the fund's \$860-million assets.

Trading on the Toronto Stock Exchange continues to outshine the Big Board. One day last week its ticker ran a record 45 minutes behind floor transactions; it never did catch up, lagging by 10 minutes when the day ended. The jam was caused by wild trading in coppers, particularly the "penny" stocks.

Case study of the cost of strikes: The 1955 operating figures for Landers, Frary & Clark, released this week, show that an 18-week strike had dropped sales to \$30-million from the year before's \$36.6-million, while earnings fell to \$206,000 from a fat \$843,000.

Don't worry too much about the London stock market's weakness—(BW—Mar. 3 '56, p142), says one smart Streeter. He says the recent slowing down of British business activity—cause of the stock slump—has been due to government efforts to curb serious inflationary trends. And such a "planned correction" creates something that's basically very different from economic maladjustment due to overproduction.

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Clue to What SUB Will Mean

The crowd in Detroit's East Side unemployment compensation office began to thin out this week as auto plants crawled back toward normal production. Before it did, layoffs in auto and satellite industries had soared to an estimated 100,000. A year ago, auto plants had nearly peak employment and overtime was general.

The sharp turnabout in the auto employment situation drew attention to the industry's new supplementary unemployment benefits plans—not yet adding to workers' income during layoffs, but very much in mind.

• **The Big Question**—Although the current unemployment does not provide any direct test of SUB—the first is likely to come in this year's model change-over period—it does furnish figures for analysis, and it does raise some questions.

The big one in most minds is, of course, this "iffy" one: If SUB plans had been fully in effect at this time, what difference would it have made?

A few weeks ago one group of laid-off workers in a Detroit local union hall did some rough figuring, based on the United Auto Workers SUB plan and

their total seniority. They came up with a disgusted answer: not very much difference.

Perhaps they weren't typical. But most laid-off workers have been low-seniority people, particularly at Chrysler. So most would have gotten little SUB aid, if any. Few would have collected benefits for long.

• **The Meaning**—This does not show weaknesses in the program. It only reflects the present heavy layoffs and the present status of SUB reserve funds. But it does point up these things:

• Low-seniority people, the first who are affected by layoffs, will get little help from SUB plans.

• Unions, attuned to the reaction of these workers, will press as promptly as possible for changes in present plans to give added protection to the low-seniority groups. The United Steelworkers already is talking about doing this when it starts bargaining in June.

These and other matters are now being mulled over in management and labor offices in the auto industry. Not much is said about it—and technicians throw up their hands in despair if asked for statistics—but a lot of careful

thought is being given to layoff figures and SUB details.

I. Heavy Layoffs

Trying to pin down accurate figures on auto layoffs this year is like punching a balloon—the dents keep changing. A special Labor Dept. survey early last month showed 80,000 layoffs in auto plants alone, or roughly 10% of the auto work force. UAW came up with roughly the same figure, 83,000 layoffs during February. But that doesn't mean 83,000 auto workers spent February collecting unemployment compensation checks. Some of those workers were probably called back to jobs during the month, and others were probably laid off but—because they had not fulfilled their one-week waiting period—were not yet listed for UC checks.

But, at some time or another last month, the cumulative layoff figures reached above 80,000. UAW believes that you can add another 20,000 to that for supplier plants.

• **Situation in Michigan**—Michigan, hub of the industry and center of Chrysler Corp. operations, was hardest

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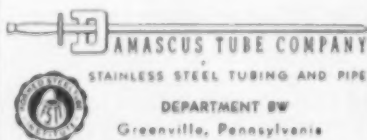
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hit. Auto plant layoffs in that state reached 60,000 last month. By mid-February, the Michigan Employment Security Commission calculated the total unemployment in the state as 155,000-100,000 in the Detroit area.

Last week, auto production began a comeback after trailing off to 18% below February, 1955. Plants started recalling workers, although not yet in big numbers. Prospects of a spring upturn in auto sales had dispersed, somewhat, the dark cloud hanging over employment in the industry.

Until then, cumulative layoffs at Chrysler had idled 40,800, according to UAW; at Ford, 16,600; at General Motors, 18,000; at Packard, 5,500; at American Motors, 2,000; and at Studebaker, 1,200. On top of this, some Ford plants and a few GM operations were on a four-day week.

• **New Workers Suffer**—Most of the workers laid off in January and last month were low-seniority employees—largely because of the heavy percentage of Chrysler workers. GM and Ford last year increased their production almost entirely by going on overtime. They said at the time that their policy was designed, in part, to help stabilize employment by not swelling a "normal" work force.

Chrysler, having slipped down to only 13% of the auto market in 1954, had to hire freely in 1955 to get its production back into line with the bigger auto market. When production had to be cut this year, the newly hired workers were first to go. Nearly half of Chrysler's 40,800 laid off had less than one year of seniority.

• **What About Rehiring?**—How many of the low-seniority people will regain jobs at Chrysler? That is one question being asked in Detroit. After SUB plans were negotiated in the auto industry, employer spokesmen predicted that one result would be a pruning of work forces to "normal" levels—with additional production to be gained through overtime work.

II. Status of SUB

Auto supplementary unemployment benefits plans are in effect now, but do not begin paying laid-off workers until June 1—providing the necessary state approvals of integrated public and private unemployment benefits are obtained by then.

It now appears certain that SUB will become fully operative on schedule. Integration already has been approved in sufficient states (BW—Feb. 25 '56, p13). Opposition from employer groups—such as the National Assn. of Manufacturers—is just as vocal and adamant as ever. But in the important areas, it has been beaten down.

• **Key State**—The key state for SUB

integration is Michigan. Under auto contracts, the supplementary unemployment benefits program cannot become effective until integrated payments are approved in states in which at least two-thirds of a company's employees work. Because of the heavy concentration of auto manufacturing in Michigan, neither Ford, GM, nor Chrysler plans could go into full effect without approval in Michigan. This week, for the first time, UAW counted Michigan as safe.

Many months ago, the state's Democratic attorney-general officially expressed the view that integration would be legal under Michigan's UC law. Such an opinion, however, would not be binding on the Board of Appeals of the Michigan Employment Security Commission. So the state's Republicans—who control the legislature—decided to back legislation authorizing integration.

• **Employer Reaction**—The proposal divided employers. The big auto companies have, of course, favored integration from the start. John S. Bugas, industrial relations vice president of Ford, says that to bar integration would be "misguided and shortsighted and not in the long-run interests of the business community."

Ford is, he said, "somewhat disturbed" at efforts of people and organizations in various states to prevent integration—thus "in effect to prevent SUB plans from working."

Among the smaller employers, American Motors also spoke out for integration (BW—Mar. 10 '56, p152).

But other employers concerned over the spread of SUB plans formed a Michigan Information Committee.

They did this with at least the tacit endorsement of the Michigan branch of NAM, and encouragement from the Ohio Information Committee, which defeated integration in that state.

The Michigan group originally had top-level industrialists at its head: Dan Gerber, president of the baby food company; John Coleman, president of Burroughs Corp., and Watson Vanderploeg, president of Kellogg Co. Shortly after MIC sponsored a bill in the legislature to outlaw SUB plans, all three quit the committee. Only Gerber voiced a reason, but it went for all three. They didn't fully realize what MIC intended to do, and they personally could see little wrong with SUB.

• **Defeat for SUB Foes**—The defections weakened MIC's position. Two weeks ago, the anti-SUB bill was beaten. At the same time, the legislature rejected another proposal that would have held public and private unemployment benefits to a combined 65% of take-home pay. There is some strong opinion in Michigan—unconfirmed—that auto companies, Ford in particular, were sympathetic to this

bill. Its passage would have thrown a roadblock in the way of UAW's plans to demand higher SUB payments in future negotiations.

Defeat of efforts to bar integration in Michigan has had effects outside the state. A UAW representative, just back from an extended trip, says he thinks opposition is moderating. He—and UAW—sees SUB in operation on June 1.

• **Special Provisions**—But that doesn't hold true for all states. Where integration is barred by law, as in Ohio at this time, workers who are laid off after June 1 will collect no SUB checks until June 1, 1957. At that time, a special provision in contracts providing an alternative method of payments goes into effect; laid-off workers will be eligible to receive—alternately—public UC checks and private SUB payments (BW—Aug. 20 '55, p98).

III. Size of the Funds

Although the SUB plans do not begin paying out until June 1, and the status of the SUB programs has just now been decided, employers have been putting aside funds at a rate of 5¢ an hour since last June.

Early in February, GM's trust fund stood at \$28.5-million, Ford's at \$9.7-million. Chrysler, which has not yet had a tax ruling from the Internal Revenue Service, has not established its fund, although money has been earmarked for one.

SUB plans specify that GM's maximum fund is to be \$150-million; Ford's \$55-million; Chrysler's \$49-million, and Studebaker-Packard's \$7.1-million. American Motors will not determine the size of its fund until September, when it begins 5¢-an-hour contributions.

• **Funds Are Low**—In February, the size of trust funds was only about 21% of the maximums set. The heavy layoffs slowed down the company contributions since they are made on a basis of hours worked. When payments begin this June, none of the trust funds will have reached more than 30% of the "fully funded" position. This is highly important—the percentage of the maximum in the fund in a given month is one of the factors determining the amount of SUB to be paid a laid-off worker.

• **Hypothetical Cases**—If the SUB plans had been operative last month, for instance, payments would have been determined on a basis of a 21% fund position. A worker with seniority of five years or less would have been entitled to barely two weeks of SUB benefits. And most of those at Chrysler wouldn't have received a single cent from SUB.

At Ford and GM plants, some laid-

off workers would have made out better. A number of workers laid off by Ford in the Dearborn Iron Foundry had seniority dating back to 1939. These workers would have earned 13 credit units, to be surrendered at a rate of two units for each week of layoff benefits under SUB plans. Even so, with funds at 21%, they would have been limited to benefits (public and private) of 65% of take-home pay for four weeks, 60% for two and a half weeks. That would have been about the biggest benefit payable under conditions that prevailed last month.

Just how much this would have amounted to in dollars and cents would depend upon the worker's unemployment compensation status. Assuming one of these high-seniority workers lived in Michigan, had a wife and one child, and had a take-home pay of \$85 a week, he would have received:

From state UC funds, \$42 a week.

From private SUB funds, \$13.25 a week for four weeks, then \$9 a week for the remaining two and a half weeks.

The total would have amounted to \$55.25 for the four weeks he was entitled to 65% of take-home, and \$51 for the period when only 60% is paid.

• **June Prospects**—Duration of SUB payments will be a little longer in June. But even then, payments are going to be far less substantial than is generally expected. Benefits equaling 65% of take-home pay for 26 weeks are not flatly guaranteed. Workers are guaranteed payments only "up to" these levels—amount and duration of benefits can vary, depending on such factors as length of service and size of the SUB fund.

• **Still a Help**—But the general opinion in Detroit seems to be that even limited SUB payments last month would have helped. Business there was hit by the layoffs. Department store sales dropped. East Side merchants near the Chrysler plants have been moaning. All appear agreed that if SUB benefits had been payable in February, the shock to business would have been a little gentler.

IV. The Test Ahead

The model change-over coming later this year may test how much help SUB will eventually be. More complete body changes are due on 1957 models than even on the 1955 cars. A body change generally means a fairly lengthy shutdown.

• **Change-Over Layoffs**—SUB plans provide—as in the case of state UC plans—for a one-week waiting period. Auto companies have been trying to keep model change-over layoffs to a week or less. If they can, they may avoid a big dip into SUB reserves this year. **END**

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AFL-CIO Urges State Mergers

Federation wants separate groups to speed plans to unite, because a single state labor body wields more power—both politically and from an organizing standpoint.

Since the AFL-CIO merger last December, leaders have been pressing state and local bodies—still functioning separately as AFL or CIO organizations—to unite, too. Under federation rules, they have two years to merge, but they are being urged to step up the program.

There's a big reason: Federation leaders believe AFL-CIO political and organizing successes hinge directly on the degree of unity in state and local labor operations. Political action is expected to be more effective if a single state labor body backs one candidate or slate of candidates. Also, organizing will move more smoothly if there is a single clearinghouse for membership drives. Now there are two labor bodies in every state.

Next week, AFL and CIO groups in Arkansas will be the first to merge officially, into a new Arkansas State Labor Council of AFL-CIO. Tennessee labor organizations will merge in April, followed by Rhode Island, Indiana, South Carolina, Missouri, and others.

• **Impetus**—AFL-CIO hopes that once the state mergers start, they will develop quickly. However, interest in merging on the state level has always lagged behind that of top-level AFL and CIO. Moreover, in many states there are historical differences and divisions that must be ended. In some, disputes over jobs and power rivalry threaten efforts to merge AFL and CIO groups this year. In others, disagreements over a program and policies for a united state labor body have already occurred.

Some state AFL and CIO groups have had coordinated activities in the past, and merger talks in a dozen or more states are progressing. However, no real unity moves have been made yet in many states, and in others half-hearted efforts soon ran into difficulties.

In New Jersey, financial questions raised stumbling blocks to a quick merger. In Texas, where a spring unity convention was originally planned, special problems arose and subcommittees had to be named to iron them out; a summer deadline has been set. In Illinois, preliminary talks made little headway.

• **Joint Committees**—These are typical cases. Because they are, merger efforts in some states now appear likely to drag on into 1957—perhaps to take the full two years allotted to lower-level mergers.

Recognizing this, AFL-CIO officers are now urging that separate AFL and

CIO organizations set up joint state political committees, without waiting for a formal merger. These joint committees would help raise funds for the federation's political arm—the Committee on Political Education—and make united endorsements of Congressional, state, and local candidates. The object, of course, is to consolidate labor's political strength before primaries and the November elections.

The AFL-CIO executive council was warned last month that no endorsements may be made without the council's approval—and that if separate AFL and CIO groups in any state propose conflicting endorsements, no official endorsements will be permitted.

• **More Concrete Job**—Creating a single clearinghouse in the states on organizing and other union matters is a tougher problem. State and local labor bodies are primarily service offices for the various unions affiliated with them. These are autonomous unions, with much to say about the state or local organization's policies on matters directly involving the unions' interests.

However, the state and local federations are small-scale facsimiles of AFL-CIO itself. As such, they come under limited federation control. The executive council may set rules for them. George Meany, AFL-CIO president, holds strong checkreins on their activities.

• **Curbs**—The council last month drew up rules curbing the powers of state organizations a bit. The state bodies are now required to submit their constitutions to the federation for approval; Meany can order amendments, if necessary, to make the state organizations conform with AFL-CIO policy. The state bodies are barred from affiliating with any organization not affiliated with AFL-CIO. They are also barred from taking part in collective bargaining except at the request of an affiliate, or from ordering a local union to strike or to originate a boycott in a labor dispute. Meany was given power to suspend or expel any officer of a state or local body for a violation of these rules.

On other issues, the state groups are still paramount. To make labor's unity movement really effective, the various branches need to operate as a coordinated body all down the line. This is what AFL-CIO is striving for now, but chances are it will be a long, hard campaign of negotiations before full-scale unity becomes an actuality. **END**

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Closing In . . .

. . . on a Westinghouse settlement, negotiators spar over possible compromises to end strike.

Company and union negotiators returned to the bargaining table this week, but not before taking a long look at the way the Westinghouse Electric Corp. strike was going. Any significant change—a sign of weakness on either side—could alter their positions.

There was no immediate evidence of change. Despite some grumbling from strikers who had hoped to be back at work this week (BW-Mar. 10'56, p144), the International Union of Electrical Workers walkout was still solid. Management's position was unchanged; appeals by Westinghouse for workers to return had not brought many back.

Recognizing these things, Westinghouse and IUE resumed contract talks under pressure from the Federal Mediation & Conciliation Service. They were close to a settlement that would end the five-month walkout, but at midweek neither side appeared willing to make the final compromise.

• **Issues**—IUE, led by James B. Carey, continued to demand that settlement terms proposed by a special mediation panel be altered to protect the jobs of 36 employees fired by the company during the strike.

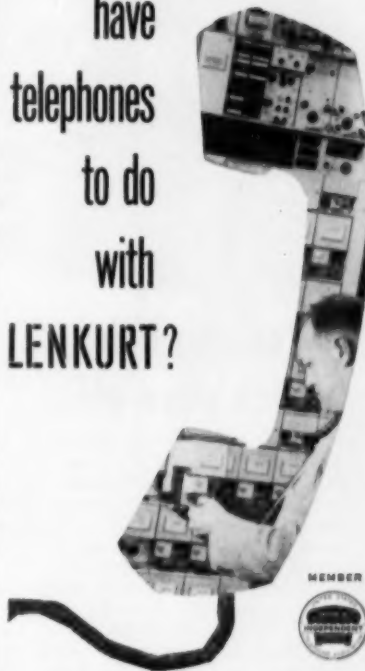
The testy issue of work standards for groups of Westinghouse workers also flared up again—even though the panel's proposals, accepted by the corporation in their entirety and by the union in substance, have lessened the gap between the two. The debate at midweek involved contract language.

Other issues, such as wages and length of contract, were agreed to by both parties last week. Whatever the final terms, they will be within the framework supplied by the mediators—FMCS's Pittsburgh commissioner, John R. Murray, and labor relations experts David L. Cole and Dr. George W. Taylor.

• **Appeal**—FMCS Director Joseph Finnegan got the parties together again this week after a public appeal for the negotiators to sit down and write out the terms they already had agreed on. Mediators felt that if the parties did this, they would find themselves closer to a pact than they thought. Particularly, mediators felt that if the dispute over discharges could be settled, the strike would be over.

Generally, the union appeared to be under the stronger pressure at midweek. Local union meetings were showing impatience over the continuing strike,

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particularly since IUE's Westinghouse Conference Board had failed to sign on terms drawn up substantially from an IUE document in which the union stated its position during the strike.

Cole noted this in a public discussion of the settlement terms. Going down

the mediators' proposals, point by point, he stressed that each—from the five-year contract with reopenings and 5¢ annual raises down to the arbitration of work standards—was drawn from areas in which the union itself had compromised during negotiations.

USW Maps a Costly Package

Steel union guesses its roughed out demands could cost up to 32¢ an hour. But industry spokesmen place a price of 49½¢ or even more on the union's list.

Four major demands roughed out last week by the United Steelworkers (BW—Mar. 10 '56, p145) make up a package that union technicians estimate will cost the industry 32¢ an hour. Some within USW feel this estimate is too low by a dime or more. So does the basic steel industry. It is getting set for the costliest labor demands it has ever faced. Steel contracts expire at midnight June 30.

The steel union did not talk much about costs last week. It took the position that since demands have not been formally drawn up—and probably won't be for at least another month—it's too early to discuss what it will go after in terms of cents per hour.

• **Key Estimates**—Still, consideration of costs couldn't be avoided entirely, and estimates of the price tags that USW has placed on key demands can be made. This is how they shape up:

• A "substantial" wage increase, the exact amount to "depend upon the cost of the total package" of demands. Union technicians indicated that 8½¢ an hour, the top amount to be given automatically under United Auto Workers contracts on June 1, would be about right—if the steel industry accepts USW's whole package.

• A supplementary unemployment compensation plan. There's no question about the cost here: It's the standard 5¢ per hour worked.

• "Penalty pay" of time-and-a-half for Saturday work and double-time for Sunday. Union technicians estimate the penalty pay clause would cost the industry 12½¢ an hour per employee if seven-days-a-week operations continue. If production were rescheduled, USW says the cost would be "only peanuts—6¢ an hour or less." Industry sources place the cost of this demand at 25¢ or more.

• A full company-paid social insurance program, with broadened benefits and coverage. At present, companies and employees share equally the 9¢-an-hour cost. If the companies were to pay all of this management's labor cost would rise 4½¢; the additional benefits and coverage that the union

seeks would add another 1½¢, making the total 6¢ an hour.

• **Full Package**—USW estimates the cost of all these demands would total 32¢ an hour if weekend work continues, 25½¢ an hour otherwise. Union officials in Chicago say the steel industry "can afford what we've talked about." When bargaining begins, about June 1, they will argue that 25 steel companies have showed an increase in net profits after taxes of almost 50% since 1953, and that the industry had its best year in history last year when it operated at 93% of capacity. Under these circumstances, said USW's research director, Otis Brubaker, the industry "can afford the two or three dimes, or whatever it costs for the things we've talked about, and still make a near-record profit."

• **Skeptic**—David J. McDonald, president of USW, tossed in a skeptical remark about the total cost of the steel union's demands at that point. "The dimes Brubaker is talking about might not be enough," he said flatly. But he would not comment seriously on other cost estimates, based on industry figures, that place USW's demands at a total of 49½¢ an hour or even more.



STEELWORKERS' Pres. McDonald: "Those dimes mightn't be enough for us."

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In Labor

• • •

Union Reports New Equipment, Methods Cut Rail Jobs

More than 200,000 railroad employees have lost jobs or been laid off in the last five years, the AFL-CIO Railway Employees Dept. reported last week. The department, which represents a claimed 300,000 rail shop workers in six unions, blames the installation of automatic equipment, technological improvements, and changed operating methods.

The report came at the opening of the 11th annual convention of the department, held in Chicago.

At the same time, an operating union—the Brotherhood of Locomotive Firemen & Enginemen—pressed demands in Chicago for a \$3-a-day raise and employer-paid medical-hospitalization insurance from major carriers. Passenger train firemen now average \$610 a month (freight firemen \$526) for a basic work day of 100 miles or five hours in passenger service or eight hours on freight runs. The firemen got an 8¢ an hour raise last October.

Carriers countered the BLF&E demand with one for the right to eliminate firemen on diesel-powered and other non-steam locomotives. Since 1936, BLF&E agreements with the roads have provided that all locomotives weighing 45 tons or more must carry a fireman—even if there are no fires to tend. Carriers say the fireman is unnecessary. But the BLF&E, supported in this by the Brotherhood of Locomotive Engineers, argues that the fireman fills a safety role as a lookout and standby engineer-trainee able to help out in any emergency.

• • •

AFL-CIO Official Warns Teamsters to Keep in Line

William F. Schnitzler, secretary-treasurer of AFL-CIO, addressed a departmental convention in Chicago last week and created a bit of a stir with these pronouncements:

- The "fight is on" between AFL-CIO and the Brotherhood of Teamsters. The federation has drawn a line beyond which its second largest affiliate may not step in its relations with the International Longshoremen's Assn., or any other discredited organization, Schnitzler declared. He warned no step would be permitted that would be "an open invitation to every racketeer and corruptionist to come into not just the Teamsters but the AFL-CIO." Teamsters-ILA relations will be considered by the former's executive board in Honolulu next week (BW—Mar. 10 '56, p148).

- Although AFL-CIO has set up a major organizing campaign, its start has been delayed because John W. Livingston, the federation's organizing director, "has not been able to work out the differences between unions." Pre-merger rivalries are still alive—and a big problem in AFL-CIO.

- AFL-CIO has enough votes to elect a Congress and state legislatures "sympathetic to labor's needs and aims"—but only if it can put into "actual realization the full potentiality of our voting strength." For the most part, Schnitzler said, this has never been done.

• • •

Labor Committee Appointment Stirs Anger of Democrats, Labor

Pro-labor Democrats in the House Labor & Education Committee are trying to upset the appointment of James Brewbaker as committee counsel. They say they were not consulted by Chmn. Graham Barden (D-N. C.) before he named the former National Assn. of Manufacturers representative.

Labor, led by AFL-CIO Pres. George Meany, reacted angrily to the appointment—not only because of Brewbaker's 10-year connection with NAM, but also because of his interest in 1955 in the Assn. for Industrial Mobilization, which proposed to do research work into union activities "which threaten free collective bargaining."

• • •

Court Reverses NLRB Ruling In Barring Union Buttons

The U. S. Court of Appeals in Chicago ruled last weekend that an employer may bar employees from wearing union buttons saying "Don't Be a Scab." The court held that such a button tends to "incite unrest and resentment . . ." in a plant.

The court upset an order by the National Labor Relations Board, which last year held that Caterpillar Tractor Co. wrongly disciplined Joliet (Ill.) workers who refused to take off "scab" buttons during an organizing drive (BW—Sep. 3 '55, p94).

• • •

Shipyard in England Tied Up In Dispute Over Boring Holes

Employers in this country are not the only ones plagued by costly jurisdictional disputes. A three-union controversy involving "a matter of principle"—which workers should bore screw holes in wood for aluminum sheeting—has tied up an English shipyard for six months and idled 900.

The United Fruit Co. ordered an aluminum lining for a new banana boat. Cammell Laird & Co. prepared to install it at a Merseyside yard. Both the Amalgamated Society of Woodworkers and the Sheet Metal Workers Union claimed the work. The Woodworkers struck to enforce its claim—and got the job.

Then a third union, the Ship Constructors & Shipwrights Assn., contested the screw-hole job assignment, and Cammell Laird canceled it. The Woodworkers walked out again. Even the British Trades Union Congress has failed to resolve the rival claims, now holding up work on nine ships.

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VOGUE	1,709
POPULAR MECHANICS	1,655
FORTUNE	1,638

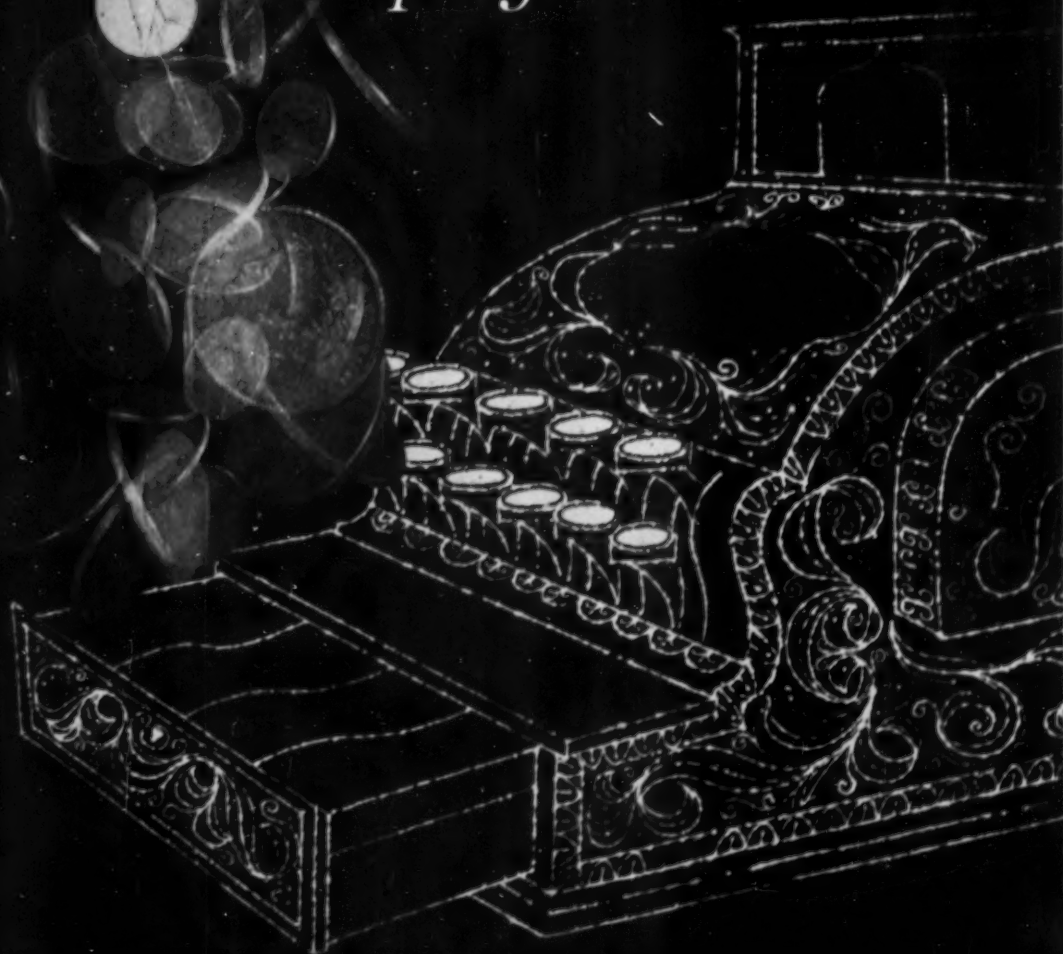
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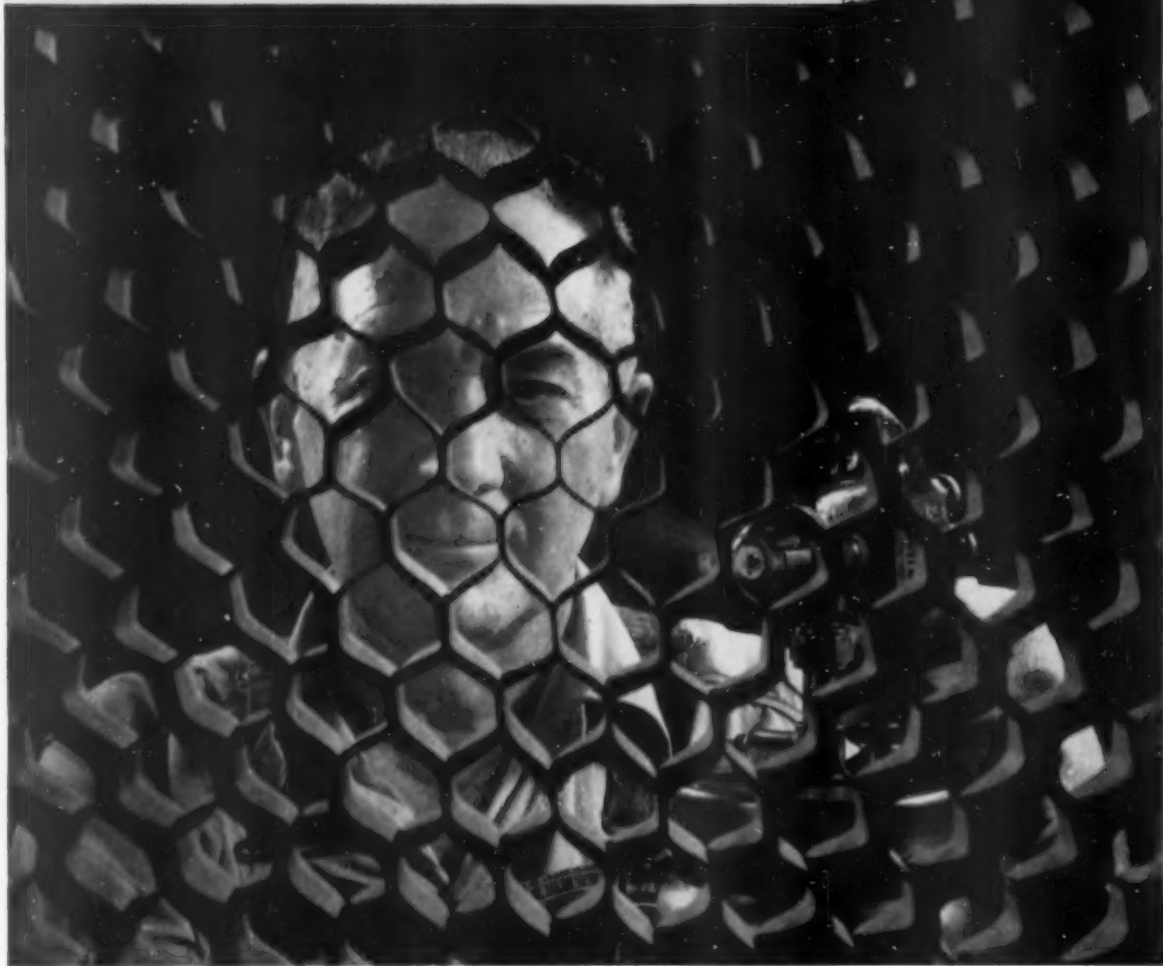
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PERSONAL BUSINESS

BUSINESS WEEK

MAR. 17, 1956



Passport applications are arriving in Washington at the rate of 3,000 a day, and the peak of the season is yet to come. That means you should begin thinking about your own now if you're planning a trip abroad this year.

Knowing in advance what is required can simplify the procedure, and can save a lot of last minute paper-hunting on your part.

Proof of citizenship is the main key to getting a passport. Most acceptable proof is one of these three records:

- A certified copy of your birth certificate showing the seal of the issuing Board of Health and the filing date.
- A baptismal certificate showing the impression of the seal of the church and indicating the date and place of birth and baptismal date.
- A naturalization certificate, if you are a naturalized citizen.

Supposing you have none of the above proof of "being alive"? The Passport Office is sympathetic with such situations—the loss of such records through hurricanes, floods, and fire is becoming more and more common.

Usually, in such circumstances, an affidavit of an older living relative who has known your parents, or of a friend whom you have known for 20 years, may be enough to qualify you for a passport.

The Passport Office also takes other records into consideration—such as life insurance policies of long standing, employment and education records, record of service in the armed forces, and the like.

Remember that all this takes time—it involves correspondence and careful checking. (But once you get your passport, it is probably the best and most acceptable proof you can have of your U. S. citizenship.)

It may take even more time to get other necessary data for your application—date and place of parents' birth, and, if they were naturalized, when and where. (You will need a parent's Certificate of Naturalization for your application only if you got your citizenship by their naturalization.)

If you or a member of your family applying for a passport is adopted, be sure to include the adoption papers with the other data.

You can't apply for a passport by mail; you can get the necessary forms by mail but you must file your application in person. The State Dept. maintains Passport Offices in New York, New Orleans, Boston, San Francisco, Chicago, and Washington. In other areas, application should be made to the clerk of the federal or state court who is qualified to execute a passport.

File your application as far in advance as possible—you'll be free of the tension of "last-minute" waiting. It usually takes a week to process an application once it reaches Washington; but it may take as long as two weeks during the rush season of the next two months.

What about the emergency situation that may arise due to business, sickness, death, in which you need a passport but don't have enough time to go through the normal procedure?

Include with your application a covering letter, stating the nature of the emergency; this will be given top priority by both the local office and

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

MAR. 17, 1956

Washington. Contacting your congressman can help, too. The Passport Office maintains a close contact with Congressional officers who try to expedite passports for their constituents on an emergency basis. To save time, your passport can be delivered at the port of embarkation, if you request it in advance.

Fee for a passport is \$10; it's valid for two years. (Renewal fee is \$5.) A joint passport may be obtained that includes your wife and minor children, but it's not recommended unless you plan to travel as a unit for the entire trip.

When final application is made, your children and wife should accompany you, regardless of whether you get a joint or individual passports. Passport pictures must be taken within six months of application (2 copies); if you get a joint passport, submit a group picture of all persons included in the passport.

—•—

It's worth looking into two new personal theft insurance policies now on the market. Both give broader coverage than present policies.

Most important is the so-called "broad-form personal theft" policy. Its coverage has been extended both on and off premises.

On-premises coverage automatically applies when the insured moves to a new address. It also protects against loss by vandalism or malicious mischief to the interior—even if entry is not actually made. It includes sterling silver, formerly included in insurance for jewelry and furs.

A big selling point is that this policy now includes "mysterious disappearance" as an insured peril—any insured property you lose is covered. Also, you are protected against theft of property from unattended automobile. And off-premises coverage is now worldwide.

Less broad is the "personal theft policy," which replaces the householder's limited theft policy. But it now gives the same coverage to insured property off premises as on. Formerly, off-premises coverage was limited to \$250 per \$1,000 of insurance. (It has no "mysterious disappearance" clause.)

Rates for both policies are never more than a few dollars above those they replace, and in some areas cost the same.

—•—

Don't ignore your accountant's tax advice. Otherwise you may get hit with a negligence penalty. In a recent case in the Second Circuit Court, the Treasury's penalty imposed on a taxpayer for such negligence was upheld.

—•—

It's time for parents to start preparations for their children's injections of Salk polio vaccine. First move is to get their doctor's advice.

A new pamphlet put out by the National Foundation for Infantile Paralysis, 120 Broadway, New York 5, will answer any general questions you may have about the vaccine, when it should be given, safety, and so on.

—•—

Manners and modes: A new pencil has a lollipop on the chewing end. It comes in Scotch, rum, and bourbon flavors for adult pencil chewers, raspberry and lemon for kids. . . . **Medium shades will replace the charcoal and dark colors in your fall suits.** . . . Twice as many men as women are killed in home accidents. But home workshops are only a minor factor.



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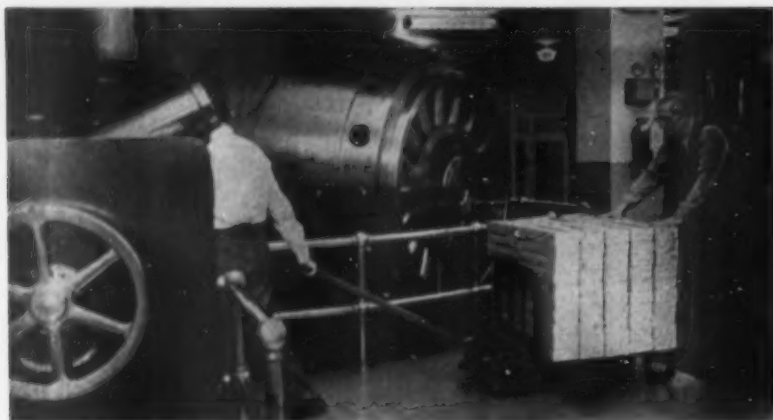
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FINANCE



CURRENCY An 800-lb. cartload of \$400,000 in new \$1 bills arrives from the U. S. Treasury for storage in Cleveland's main vault.

POLICY Merle Hostetler, research director, arms Pres. Fulton and Chmn. Virden with facts and figures on business situation.

LOANS Harry Burmester, president of Cleveland's Union Bank of Commerce, talks loans with Pres. Fulton.



The Bankers' Bank

Behind the classic facade of the Cleveland Federal Reserve Bank (above, right) are the services and decisions that affect the economic life of 15-million persons in a center of the nation's heavy industry.



in Cleveland: A Leader's Role

ONLY A HANDFUL of people who were not employed by the Federal Reserve Bank of Cleveland entered its spacious marble quarters last week. The visitors included a few businessmen, some bankers, a number of bank messengers, a group of high school students on a tour. But despite this relative isolation from the general public, the Cleveland Fed, like its 11 counterparts across the country, was a beehive of activity

that involved the entire community.

These activities are rarely witnessed by the public, because the Cleveland Fed plays a largely inconspicuous and almost invisible role. This is true of all 12 district Federal Reserve Banks. Yet they play a vital role. Together, they have a decisive influence on the amount of credit available to the nation and the amount of cash in the public's pockets.

• **12 Central Banks**—This arises out of their special position as central banks. Unlike many other nations, which have only one central bank, the U.S. has a decentralized system of 12 central banks.

Each is a private corporation that is completely independent in the area it serves. Coordinated by the Federal Reserve Board in Washington they form one collective central bank with

Gathering information is a Federal Reserve Bank's single most important job, Cleveland officials feel. They also stress giving out information.



FED RESEARCHER Fred Kiel, right, questions Alex Treuhaft, Cleveland builder, on housing plans. Surveys of real estate and retail sales are conducted regularly.



BUSINESSMEN get advice from bank loan officers on financing, in turn help the bank to assess business trends.

responsibility for governing the money supply.

I. The Cleveland Bank

The Cleveland bank, with its branches at Pittsburgh and Cincinnati, is one of the nation's regional central banks. Like all the others, it has two special concerns: (1) the state of banking in its district and (2) the making of credit policy for the nation as a whole.

The only obvious point of contact between the bank and the public, and the only operation evident to visitors, is the handling of currency. About 85% of all money in the U. S. consists of Federal Reserve notes; the rest is in Treasury notes, silver certificates, and coin.

Even here, the contact is usually indirect. For the Cleveland bank is a wholesaler of money, supplying the banks of the district or taking in money from the banks. Charged with maintaining an elastic currency geared to public demand, it increases or decreases the supply in circulation to meet changing conditions.

• **Money by the Ton**—Although anyone is welcome, few of the public ever approach the cashier's window in the gilded lobby of the Cleveland bank to cash a check or change a big bill.

Each working day, the cashiers are busy recording the transactions of member banks, and a stream of armored cars is continually rolling into the guarded security court of the bank. There they unload bulky sacks of coins and bills and pick up similar loads for delivery to the district banks.

This is a massive and cumbersome operation, because money—in bulk—is heavy. For example, \$1-million in \$1 bills weighs more than a ton, and \$100,000 in silver can weigh about 3 tons. The Cleveland Fed has installed a conveyor belt for facilitating coin transactions, and it uses hand trucks to tote bills.

In 1955, Cleveland and its two branches paid out more than \$2-billion in bills, more than \$90-million in coin. Each shipment to a bank is charged to the reserve account that member banks must maintain, and each return is credited to the account, much as any bank deals with its customers. The difference is that the Feds can create money—they have the right to issue currency.

• **Safe Keeping** Meeting the currency needs of an entire district calls for a lot of storage space. Behind the 100-ton door of the bank's main vault are more than \$6-billion in cash and securities; its coin vault holds over \$1.5-million. And there are two other vaults that contain cash for emergency use, specifically if there is a breakdown in the mechanism of the main vault door.

Security, of course, is strict. The Cleveland bank has a dual control system, with two employees assigned to each operation and with two different locks on each safe door. All currency is counted by machine and checked for counterfeit or worn bills. (Unfit Treasury notes are destroyed at the bank in lots of \$60,000 or more, while all Fed bills taken out of circulation are sent to the U. S. Treasury for incineration, which itself is another security measure.) The Cleveland Fed always has



BANK ECONOMIST Addison Cutler goes on weekly broadcast as a public service by the Cleveland Fed.

on hand a big supply of new bills that are not counted as actual money until they are used to replace unfit currency or a portion of the Fed's reserves are pledged against them.

Much the same process is followed with coins, which are weighed and sorted as they come into the bank. Coin checkers find about \$30 in slugs and foreign coins in every lot of \$25,000 or so.

But though its currency operations are a large-scale operation, they are also fairly routine. There is almost no such thing as an emergency. The last crisis of any kind was in 1951, when the nationwide shortage of pennies caused the Cleveland Fed to ration its supply. If a bank anywhere in the district loses its normal currency supply through fire or robbery, the Cleveland Fed and its branches are equipped to furnish fresh funds. Thus, the manufacturer preparing a payroll or the retail storekeeper needing coins is rarely, if ever, inconvenienced.

• **Quiet Machinery**—Because it functions so smoothly in the one area where the public could be directly affected, the Cleveland bank—like other Fed banks—does not attract much attention. Nevertheless, it shares responsibility with the Federal Reserve Board in the crucial task of managing the nation's credit.

The district Feds are both operating arms and policymakers for the Federal Reserve System. They are not government institutions, although they are established by law and serve as bankers for the government. Nor are they private banks, although their stock is owned by the commercial banks of the nation.

Instead they are a unique type of institution designed primarily to provide a strong and flexible banking system and a flow of bank credit that can meet the needs of a growing economy.

II. The District

The Fourth Federal Reserve District, which has its headquarters in Cleveland, embraces all of Ohio, part of Pennsylvania and Kentucky, and the panhandle of West Virginia. There are 15-million people in its area, one of the smallest populations among the Fed's 12 districts.

Situated in the middle of the trade and transportation network linking the East and West, the Cleveland district accounts for more than 10% of the nation's total business. This makes it the fourth largest area in terms of economic activity. It is a major center of heavy industry—steel, machine tools, rubber, and chemicals.

To serve its heavy concentration of business, the Cleveland district has over 1,000 banks. About 60% are members

of the Federal Reserve, and these banks hold 85% of all bank deposits in the area. As members, they are required to keep a specified percentage of their deposits in the central bank; in return, they have the privilege of borrowing from the Fed.

III. Discounting

The bank reserves held by the Cleveland Fed are the key to its control over member banks. Member banks draw on these reserves when they need new currency or to pay for checks issued by their depositors; they add to their reserves when they deposit currency or get checks in deposit. Their ability to make loans depends on how much reserve they possess above the level required by the Fed. Requirements are set by the Fed in Washington for all the districts.

When an individual bank lacks sufficient reserves, it has several ways in which to get more. It can borrow from other banks through the Federal funds market. It can sell securities from its portfolio or call in loans. Or it can borrow from the Federal Reserve itself.

When it goes to the Fed, it presents some of its customers' notes or gives its own notes backed by securities. In either case, the Fed is under no obligation to provide credit, and it always scrutinizes the paper it receives. Under normal circumstances, it does discount this paper or advance on a bank's note. But the amount of control it has over an individual bank is limited, and depends to a large extent, on the special relationship between the Fed and its members.

• **Bankers' Bank**—In their dealings with individual member banks, Cleveland's loan officers do not attempt to enforce the credit policy being pursued by the System. Their main check on the use of the discount window stems from the general reluctance of member banks to be in debt at the Fed.

The process of borrowing from the Cleveland bank is much quicker than that of a potential borrower approaching his own bank. This is because most of the district banks keep a large portion of their security portfolio in the Fed's vaults. A banker who needs to replenish reserves can make a request over the phone, pledging some of the securities his bank keeps with the Fed. Such requests, in fact, are much more common than personal visits, although when a loan is turned down or the paper offered by a bank is not considered suitable, personal visits are usually involved.

• **A Right**—Wilbur Fulton, president of the Cleveland Fed, considers the use of the discount window by member banks as more than a privilege—as a right. It is his stated policy to keep

"the discount window open at all times."

Bankers in the district confirm that the Fed is liberal in accommodating them. According to one banker who often goes to the Fed for temporary borrowings: "We don't have any trouble getting funds, provided they're really needed."

• **Not to Be Abused**—Though the discount window is always open, Fulton—and his loan officers—see that its use is not abused. If a bank gets chronically in debt to the Fed, it will get a sharp warning to pay up. Or if a bank borrows from the Fed in order to lend money for speculation in securities, it will be told that this is an improper use of Fed credit.

"We expect bankers to make use of us," Fulton explains, "but when we find them doing things that we don't like, we say so. That's all it needs to make them stop."

The Cleveland bank feels it has done a good job in keeping its banks toeing the line. Abuses, according to its loan officers, are not common. And when they do occur, bank officials have a way of discovering them, mainly through the wealth of formal and informal contacts it maintains in financial circles.

Recently, Fulton reveals, the Cleveland bank "smelled out" a member who was borrowing at the discount rate of 2½% and lending in the New York call loan market at 3½%.

"The banker was a good friend of mine," says Fulton, "but that didn't stop me from telling him off. We don't want to have our banks use us for profit." Fulton's attitude is that discounting should be used to accommodate the bank's own customers, not to feed the money market generally.

IV. Controlling Reserves

This intimate relationship with member banks is essential to a smoothly functioning banking system. But the district Fed must also be in a position to survey the total banking picture, because the joint action of the 12 banks can itself affect the level of bank reserves and raise or lower the amount of credit available.

There are three major instruments for influencing reserves, and the district Feds have a hand in each:

• They themselves initiate changes in discount rates, which must then be approved by the Federal Reserve Board.

• The Board alone can change reserve requirements, although in contemplating such action, it customarily determines the views of the Feds.

• And the district central banks combine with the Federal Reserve Board in conducting the affairs of the Open Market Committee, which manages the



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WILBUR FULTON, president of the Cleveland Fed since 1953, is a career banker.

total investment portfolio of the 12 Federal Reserve Banks (BW-Mar.19 '55,p110).

• **Open Market**—The Fed's Open Market account is handled for the entire group by the New York bank, which is convenient to the nation's main market. When it sells securities from the portfolio, it acts to reduce the reserves available to the nation's banks; when it buys, it increases reserves. This impact is not dramatic or immediate, but the consequences of Open Market activity eventually influence the reserve positions of every bank.

Most of the Federal Reserve System's income comes from the interest it receives on its government securities. Each bank gets a pro-rata share of the revenue from the portfolio managed by the Open Market Committee. Its decisions on whether to buy or sell are not aimed at profit, but at regulating the level of credit available to the banks. The Cleveland bank regularly pays a 6% dividend on the stock that its member banks must buy in order to belong to the System. The major part of its earnings go to the U.S. Treasury on the ground that they were made possible by the power to issue currency and create reserves.

V. Who's in Charge

The relationship between the Cleveland member banks and their Fed bank is not like the usual relationship between the owners of a corporation and its officers. On the one hand, the Fed acts as a service organization for banks; on the other, it resembles a regulatory body.

Member banks play a part in choosing the board of directors, but have no other voice in managing the affairs of the Fed. Like the twelve other district

banks, Cleveland has a nine-man board of directors. Its member banks elect six of the board—by statute, three bankers and three men who are in business or agriculture but not in banking. The Federal Reserve Board in Washington appoints the other three directors, who also must not be bankers. One of the Board's choices is always designated as chairman.

Thus, businessmen are in a majority on each Fed bank board, which is responsible for conducting the affairs of the bank. Actual operations, however, are under the control of the bank president, who is chosen by the directors and must be approved by the Federal Reserve Board.

Fulton, who has spent his entire career in the banking business became Cleveland's president in 1953. He joined Cleveland's Fed in 1934, worked his way up from bank examiner to first vice-president before taking over the head post when Ray Gidney moved to Washington as Comptroller of the Currency.

• **Banking Services**—As a central bank, Cleveland's biggest client is the U.S. government, which keeps a share of its working balances in each district bank. The Fed banks are fiscal agents for the U.S., making payments for the Treasury—for salaries, pensions, public works—and collecting its tax receipts.

The Cleveland bank, for example, handles the sale of new Treasury issues, pays off maturing obligations, and takes care of all transactions involving U.S. savings bonds. Under Regulation V, it guarantees defense production loans for the Defense Dept., the Atomic Energy Commission, and other government agencies.

As a service institution, the Cleveland bank gives its members many benefits. It collects checks, transfers funds by wire, wraps coins, provides facilities for the safekeeping of their securities, in addition to making loans to them and keeping them supplied with money. These are much the same services that commercial banks offer to their individual customers, so that the Feds are, in effect, bankers' banks.

• **Supervision**—But the Feds are more than that, too. They supervise the banks in their area in an effort to assure the public of a sound and safe banking system. A Fed bank's main form of supervision is through its examinations of individual banks. By these systematic reviews, it is able to establish common standards that, in general, provide for able bank management.

The Feds are not the only supervisory body—the Comptroller of the Currency, the Federal Deposit Insurance Corp., and the state bank agencies are also concerned in examining the banks. This leads to a certain amount of overlapping

Economic Ends and Means

THE forms of political intervention in economic life that add up to the "welfare state"—or, if carried to their logical extreme, to outright socialism—are directed at ends which may appear, and sometimes are, desirable in themselves. No one could quarrel with such objectives as continuous full employment, fair prices, adequate housing, and cheap power, if these ends could be defined clearly, attained successfully, and considered apart from the means by which they are sought.

This seems to be why the world-wide drift toward authoritarianism and inflation is so difficult to combat. Authoritarianism and inflation are not conscious ends but means, or rather secondary results of means. The vast majority of people have no desire to live in political strait jackets or to see their currencies debased. They desire freedom and sound money. But they also desire the "social programs" upon which all modern governments have embarked, and in aiming at one set of goals they are unintentionally moving toward the other.

"Welfare" and "Security"

In the endeavor to protect against the hazards of unemployment, old age, sickness, and other personal misfortunes, governments all over the world have assumed the responsibility of maintaining high levels of business activity and of providing financial aid to individuals under certain conditions. Both the intended and the unintended results vary with the degrees and types of control adopted and the economic positions of countries.

As for the unintended results, two are beyond question: the suppression of economic freedom and the bias toward inflation. In some countries, freedom of enterprise and freedom of contract have all but disappeared. Persons dependent upon fixed

incomes have been impoverished. Beneath the "pegged" exchange rates and the other regulated values is an all-pervading instability that makes a mockery of all devices for economic security.

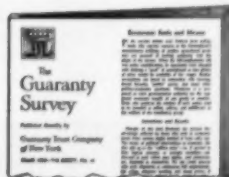
The Final Outcome

The evils, contradictions and absurdities of the "welfare state" are, in the final analysis, the results of narrow and superficial economic thinking—thinking that concerns itself with a single, seemingly desirable end and not with the innumerable effects that flow from the means adopted toward that end. The proper aim of economic life is an over-all aim: the use of limited human and material resources in such a way as to serve most effectively the needs and desires of all the people. This aim tends to be achieved automatically in a regime of free markets where the people's needs and desires can express themselves in price offers to which producers are forced by economic necessity to conform.

When political authority, even with the best of intentions, interferes with this self-regulating flow of goods and services, it sets up chains of cause and effect which it can neither foresee nor control except by constantly widening its authority. The final outcome is a regimented society from which all objective and valid guides to human effort have vanished, along with human freedom.

From the March issue of THE GUARANTY SURVEY, monthly review of business and economic conditions published by Guaranty Trust Company of New York.

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and a division of responsibility, but as these agencies work together, they have uncovered many abuses and have helped to establish proper safeguards.

Cleveland bank officials feel it is doubtful that any amount of supervision can guarantee against bank failure, because that depends primarily on the individual management. Nor can examinations be used as a means of enforcing Federal Reserve credit policy. But they do contribute to the over-all strength of the economy by insuring that the nation's banking system is prepared to meet the needs of business and the public.

• **Indirect Controls**—Most Fed banking functions, including this supervisory role, are largely mechanical in nature. A big majority of the 1,700 Fed personnel in the Cleveland district are employed in these duties. But though these functions are essential to a national banking system, the major responsibility of the Federal Reserve System is to use its indirect weapons of monetary control to moderate the fluctuations in the business cycle.

Since the Fed-Treasury accord of March, 1951, which ended the pegging of the government bond market and restored the independence of the Federal Reserve System, the Fed's management of the credit supply outranks all other duties. Through the Open Market Committee, it can either tighten or ease credit to meet changing economic conditions. In theory, only five of the bank presidents are on the Open Market Committee in any one year, but they are all encouraged to attend and assist in making policy.

VI. Clearing Information

The presidents of the district Feds can make a valuable contribution by presenting grassroots reports of activity in their own districts. Because of their special position as private institutions serving the public interest, and their strategic location in key spots across the nation, the Fed banks form a network of intelligence centers devoted to watching the course of business.

Pres. Fulton and the other top officials of the Cleveland Fed consider the gathering of information as their single most important activity. And they have worked hard at developing sources of information that can guide their thinking. Fulton himself feels that without a sense of what business is doing and planning, it is impossible to decide whether to ease or tighten credit.

"Trying to make policy without a pretty firm idea of where the economy is headed," he says, "is like trying to land a plane you're flying blind."

• **Intelligence Work**—Gathering information in the Cleveland district is a never-ending process, and it involves

clues

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see page—198

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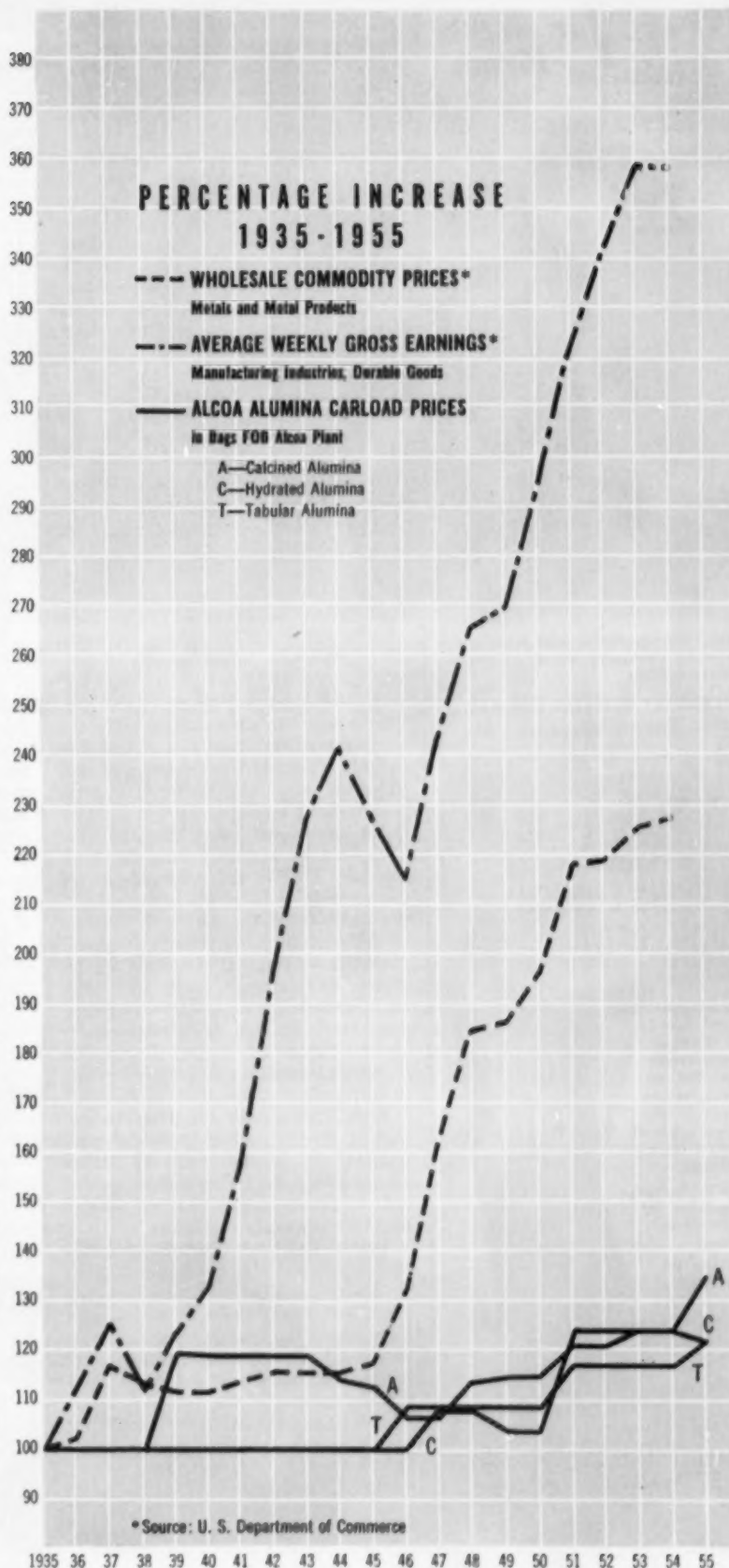
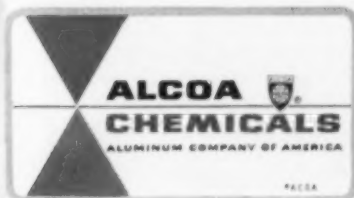
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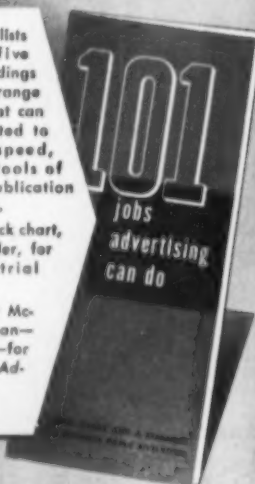
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a number of intelligence agents—the board of directors, its top officers, and its research staff. Obviously, formal contacts with the member banks provide a steady and intimate picture of loan demand. But Fulton, who is a sort of chief intelligence officer, likes to get behind the balance sheets in order to find what bankers are thinking and what they may be anticipating. He also spends a lot of time sounding out businessmen, mostly on an informal basis.

Fulton has had a good deal of success in getting outsiders to consider the Fed as a confidant. His own personality has helped him in this. An affable and friendly man, he is on first-name terms with most of the prominent businessmen in the district.

The Fed, he points out, does not want information for any ulterior purpose, and he would not think of telling one businessman what his competitor is planning. But by getting businessmen to speak frankly about their own decisions, he is in a position to assess the broad picture.

• **Combined Effort**—In this process, Fulton likes to discuss every aspect with other bank officials. He works closely with John C. Virden, chairman of Cleveland's board and a public-spirited industrialist who is intent on increasing business interest in the Fed. He is also in daily touch with the professional economists on his staff, including Donald Thompson, first vice-president, and Merle Hostetler, director of economic research.

As in any intelligence operation, the Cleveland bank does a basic fact-finding job. This is the responsibility of the research staff, which is the collecting center for all the statistical measures of the economy. The economists under Hostetler are engaged in making regular surveys of mortgage credit and retail trade and frequently take on special assignments in such fields as consumer credit. They exchange views with economists and businessmen working in corporations throughout the district.

Both Fulton and Hostetler believe that it is essential to arrive at firm forecasts of business activity before deciding on policy. They are not guided only by current conditions, but what is likely to happen in the future.

• **Public Relations**—The concentrated effort to acquire intelligence also leads to giving out information. In the Cleveland bank, there is no attempt to maintain the curtain of secrecy that has traditionally characterized central bankers. Its officials do not reveal their forecasts or any of the decisions taken by the Open Market Committee, but they consider that the public has a right to be kept informed about current economic conditions.

More than most district Feds, the Cleveland bank is working to increase

public understanding. It broadcasts a weekly program on business trends, written by the research staff. It also publishes a weekly summary of business conditions in Cleveland and distributes a film showing the role of the Fed in the community. These are in addition to the monthly business review and the statistical measures that all Feds put out.

Of all this material, much is highly useful and informative but appears to be aimed more at the economist than the businessman. Moreover, very little of the economic material the bank furnishes to the public has a regional flavor. This is partly a deliberate decision, partly the result of circumstance.

• **Non-Regional**—Location has something to do with it. Unlike the Boston district, for instance, which covers all of New England, or San Francisco, which takes in the entire West Coast, Cleveland is not a clear-cut and self-contained region. And it is, in part, a matter of economic structure. Unlike the Minneapolis or Kansas City Feds, which are concentrated in agriculture, Cleveland has a cross-section of industry and farming.

This non-regional attitude also stems from Fulton's feeling that the responsibility for credit policy entails a "system rather than a district approach." Hostetler, who watches national figures much more assiduously than regional ones, emphatically endorses Fulton's broad view. As he puts it: "We use the district as a base for judging the entire country. If we only looked at the district, we'd lose sight of what was happening around us. The other areas influence us as much as we influence them."

This is evident from the experience of the last few years. In the 1953-54 recession, the Fourth District's decline started sooner and lasted a little longer than in most other areas. And in the subsequent recovery, it has enjoyed much greater activity. In 1955, for instance, Cleveland department store sales showed the biggest increase of any city in the country.

• **Leading the Way**—The Cleveland bank made news last August, when Fulton won the Federal Reserve Board's approval to raise the discount rate in his district by 4%—from 11% to 15%. None of the other Fed presidents was ready to go along with his proposal; at first, they limited their hike to 1%. Most banking authorities felt that Cleveland's rise was based on the boom within the district.

Admittedly Fulton's thinking was colored by the information he picked up in his own area, but he—and his associates—declare that the decision was taken on an appraisal of the national picture. As Cleveland saw it, the boom was in danger of getting out of control



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The 10-ton Whiting Crane on Midland's production line.



This announcement is neither an offer to sell nor a solicitation of an offer to buy any of these Securities. The offer is made only by the Prospectus.

Riegel Paper Corporation

\$6,000,000 3½% Sinking Fund Debentures

Dated February 1, 1956

Due February 1, 1961

Interest payable August 1 and February 1 in New York City

Price 100% and Accrued Interest

194,155 Shares Common Stock
(\$10 Par Value)

Rights, evidenced by subscription warrants, to subscribe for these shares at \$30 a share have been issued by the Company to its Common Stockholders, which rights will expire at 3:30 P.M., Eastern Standard Time, on March 26, 1956, as more fully set forth in the Prospectus.

The several underwriters may offer shares of Common Stock at prices not less than the Subscription Price set forth above (less, in the case of sales to dealers, the concession allowed to dealers) and not more than the highest known price at which the Common Stock is being offered concurrently in the over-the-counter market by other security dealers, plus an amount equal to any concession allowed to dealers.

Copies of the Prospectus may be obtained from only such of the undersigned as may legally offer these Securities in compliance with the securities laws of the respective States.

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BLYTH & CO., INC.

GOLDMAN, SACHS & CO.

MERRILL LYNCH, PIERCE, FENNER & BEANE SMITH, BARNEY & CO.

STONE & WEBSTER SECURITIES CORPORATION

INGALLS & SNYDER

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W. E. HUTTON & CO.

PAINE, WEBBER, JACKSON & CURTIS

March 7, 1956.

DIVIDEND NOTICE

The Board of Directors of the Kearney & Trecker Corporation has declared a quarterly dividend of fifteen (15¢) cents per share payable March 15, 1956 to the stockholders of record March 2, 1956.

Signed:
R. L. BISCHOFF
Secretary and Treasurer



Kearney & Trecker Corporation
Milwaukee 14, Wisconsin

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EXECUTIVE PROBLEMS

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and needed a dramatic step to restrain the demand for credit. A ½% rise, the Clevelanders felt, was too gradual; it was their conviction that a ¼% increase was needed to make the country aware that the Fed was actively restraining the boom.

As a matter of fact, the squeeze on the Fourth District's banks last fall was much less severe than the tightness in other centers. There is always an inflow of funds to areas of high industrial activity when the economy as a whole is booming, and this was true in Cleveland last year. It is Fulton's belief that the "24% rate was appropriate for the nation," and he considers that he was vindicated when the other Feds moved their rates in line with his.

• **New School**—Fulton disclaims any desire to be known as a leader in the System. But he is a prime example of the type of policymaker now being developed.

Until the 1951 accord, most Fed bank presidents, with the exception of Allan Sproul in New York, spent most of their time overseeing technical operations and ironing out regional banking problems. Although Fulton was trained as a practical banker rather than a student of monetary policy, he had managed to learn the ropes of central banking. "It takes a lot of work," he states, "and I don't think there is every any end to it."

• **Man Shortage**—His own experience has taught him that there is a pressing need to develop personnel who can grapple with the complicated problems of monetary policy. This year, the Cleveland bank initiated a series of seminars on central banking for its top staff members.

The lack of able personnel is felt throughout the System. But, surprisingly, there is little interchange of employees between the districts. Each bank recruits and trains its own staff.

Although the Fed banks pay the going scale for their staff, they don't contemplate any real expansion. Thus, they cannot promise a likely candidate a swift rise up the ranks, and they often lose well-trained men to commercial banks that can offer greater opportunity, if not more money.

Equally important is the need to get top-flight businessmen on the boards of directors. The Cleveland bank feels it has been lucky in the caliber of the executives who serve on its board. Throughout the Cleveland district, a directorship is considered a source of considerable prestige. Chmn. Virden also feels that it is a great education. "Businessmen who may be skilled in their own particular industry," he says, "get their eyes open when they see what is involved in making monetary policy." **END**

Setting the TV Set is Now a 'Snap'...



No more 'warm-up wait' to adjust volume.

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JUST snap out the control knob and sit down to enjoy yourself. No standing around waiting for the set to warm up so you can adjust the volume—not with Mallory's push-pull switch and volume control.

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In Finance

Ford Common Stock Makes Its Debut on Big Board

Ford Motor Co. common stock bowed in at the New York Stock Exchange last week with some pomp but not much circumstance. At an elaborate initiation on the floor of the Exchange, G. Keith Funston, Exchange president, and Benson Ford, Ford vice-president, watched as trading started in the 11.3-million shares listed.

Ford traded only 11,000 shares on the opening day—over half of that in the first hour—and closed off from its opening price. (The same day, General Motors traded 20,100 shares—and was only the 10th most active stock.)

In the midst of the ceremonies, the ball was stolen from Ford by one of its competitors, Chrysler Corp., which was the first stock to cross the tape. Ford opened some minutes later up $\frac{1}{8}$ of a point from its last over-the-counter close, but still \$2.50 under its offering price of \$64.50.

Benson Ford announced that the company now has 350,000 shareholders as a result of its sale of 10.2-million shares. That puts Ford in the No. 3 spot in the country as far as the number of stockholders goes. Ford holds that place despite the fact that the number of common shares in public hands—excluding Ford Foundation holdings—is relatively small. American Tel & Tel, for instance, with the most shareholders—1.4-million—has 54.4-million shares of stock outstanding. General Motors, which ranks second in stockholders with more than half a million, has 275-million shares held by the public.

Treasury Scores Big Success

In Its Latest Refinancing

The Treasury's latest refinancing, involving \$9.5-billion of securities, was one of the most successful in some time. The attrition rate—the percent of the maturing issue that holders wanted to redeem for cash rather than swap for the new issues—was less than 2% according to Treasury spokesmen.

The Treasury offered holders of maturing notes—\$5-billion of which were in the hands of the Federal Reserve—pretty much the same dual choice it did last December: either a 2 $\frac{3}{8}$ % certificate maturing in 11 months, or 2 $\frac{7}{8}$ % notes maturing June 15, 1958. About half of the non-Fed holders of maturing issues took the longer-term 2 $\frac{7}{8}$ %, with corporate buyers an important factor in this issue.

Finance Briefs

Silver Shield Systems, Inc., largest debt-counseling firm (BW—Aug. 6 '55, p. 96) went into receivership last week, after failing to make partial restitution of \$38,000 of customers' funds. All such firms have been outlawed from operating in New York.

A familiar name invades Wall Street with first public sales of 300,000 shares of stock of McGregor-Doniger, Inc., makers of McGregor sportswear. Net sales of the company were \$46.6-million last year, \$40.8-million in 1954. Assets total \$21.8-million.

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Cleveland 15	William C. Bradford, John G. Cashin, 1510 Hanna Bldg., Superior 1-7000
Dallas 2	Gordon L. Jones, Adolphus Tower Bldg., Main & Akard Sts., Prichard 4-3000
Detroit 28	Alfred L. Blossing, C. C. Randolph, 856 Penobscot Bldg., Woodward 3-1792
Los Angeles 17	Knos Bourne, 1125 West Sixth St., Madison 4-3551
New York 36	Harold E. Choate, John H. Glover, G. Robert Griswold, A. T. Ostle, John H. Stevenson, 330 W. 42nd Street, Longacre 4-3000
Philadelphia 1	R. Bernard Alexander, David R. Connor, T. B. Robertson, Architects Bldg., 17th & Sanson Sts., Rittenhouse 6-0670
Pittsburgh 22	John F. Taylor, 915 Oliver Bldg., Atlantic 1-4707
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San Francisco 1	John W. Otterson, 68 Post Street, Douglas 2-4606
England	Herbert Lagler, Metrow Hill Co., Ltd., 25 Farringdon St., London, E. C. 4

The World Won't Stand Still

It would be simpler for this country if, during an election year, the world would stand still for us, as the sun did for Joshua. Then we could really enjoy our election battles—and forget that our habit of making fair political game out of foreign policy issues often leads to a dangerous hiatus in U.S. policy.

In fact, the world these days is far from standing still to suit our convenience. It is in a state of violent flux everywhere you look. The last thing we can afford to do is to let American foreign policy stand still.

In the Middle East things have reached the point where you can't tell from one day to the next what new move the Russians will make, where the Arabs will strike next at British influence, when an Arab-Israel clash may bring full-scale hostilities. In South Asia, where Secy. of State Dulles has just been trying to mend our fences, the Communists constantly are pushing their economic offensive. In Southeast Asia there is no immediate crisis, but there is no prospect of stability, either.

In Western Europe there is uneasiness about U.S. policy. There is a strong feeling that—to cope with the shift in Soviet tactics—Washington must put more stress on disarmament and on the economic and political aspects of East-West competition.

The plain fact is that our leadership was never more needed. Neither our friends nor our enemies will wait just because we would find it easier not to exercise that leadership during the election campaign.

Pres. Eisenhower showed last week how well he appreciates this fact. In his letter to Premier Bulganin on the question of arms controls he put the U.S. out in front as a champion of disarmament. In his press conference he stressed the need for a new U.S. effort to meet the Soviet economic challenge, which, as he put it, is "serious, very serious."

With these moves, both of them reassuring to our friends, the President indicated that he will do his best to see that there is no hiatus in American foreign policy. It is our hope that Congress will do the same.

The bipartisan principle was designed to meet just the kind of situation we face today. It was never intended to exclude criticism by the party in opposition or claims of achievement by the party in power. But, if it is to mean anything, it requires that vote-getters on both sides of the political fence see that they don't push political advantage to the point where decision making comes to a standstill and the U.S. has to abdicate its leadership.

Credit Control Dilemma

The price stability we have enjoyed for the past three years has given rise to a widespread belief that wise use of the government's general, but indirect,

monetary and fiscal policies can assure a pattern of stable economic growth.

There is no doubt that our monetary managers have used the weapons at their disposal with considerable skill. Last year, their policy of credit restraint limited the increase in the money supply to 2.5%. In the last five months of the year, when the boom was at its height, the growth in money supply was less than 1%.

But now there is a growing threat of instability (BW—Mar. 10 '56, p26). Labor is pressing for new wage increases; commodity prices, particularly of industrial materials, are rising; capital spending by business is growing constantly. Consumer credit is still growing lustily. There strong inflationary pressures are threatening to upset the pattern of stable growth.

This is happening at a time when the banking system is under the tightest kind of restraint. Demand deposits increased by only \$2.6-billion in 1955, compared with \$4-billion in 1954, and many of the nation's major banks actually registered a decline in deposits, which limits their ability to meet new demand.

This dilemma should make it plain that general monetary controls are not miracle weapons. There is a limit on what they can do, and it imperils the whole economy to try to make them do more than they are capable of. To push credit controls too far in an effort to control particular excesses is to run the risk of upsetting the stability of the whole economy.

A Vote for Sanity

The U.S. Senate last week gave the country an example of something that is seen far too rarely—legislative statesmanship. In spite of the pressures and temptations of an election year, the Senate firmly rejected a proposal to restore rigid price supports for farm products and endorsed instead the flexible support system backed by the Eisenhower Administration as part of its farm program.

We devoutly hope that this clearheaded decision by "the greatest deliberative body in the world" will make an impression on the House, which already has gone on record in favor of rigid supports. Certainly the decisive nature of the vote—54 to 41, with every member of the Senate present—will strengthen the Administration's hand when the bill goes to conference.

We also hope that this well-considered and exhaustively debated decision will help keep the discussion of farm problems on a comparatively sane level in the coming campaign.

It is worth noting that the vote did not follow party lines. And while it probably is too much to hope that rigid price supports will not become a partisan issue, perhaps the Senate's firm decision will help limit the amount of nonsense that is talked.

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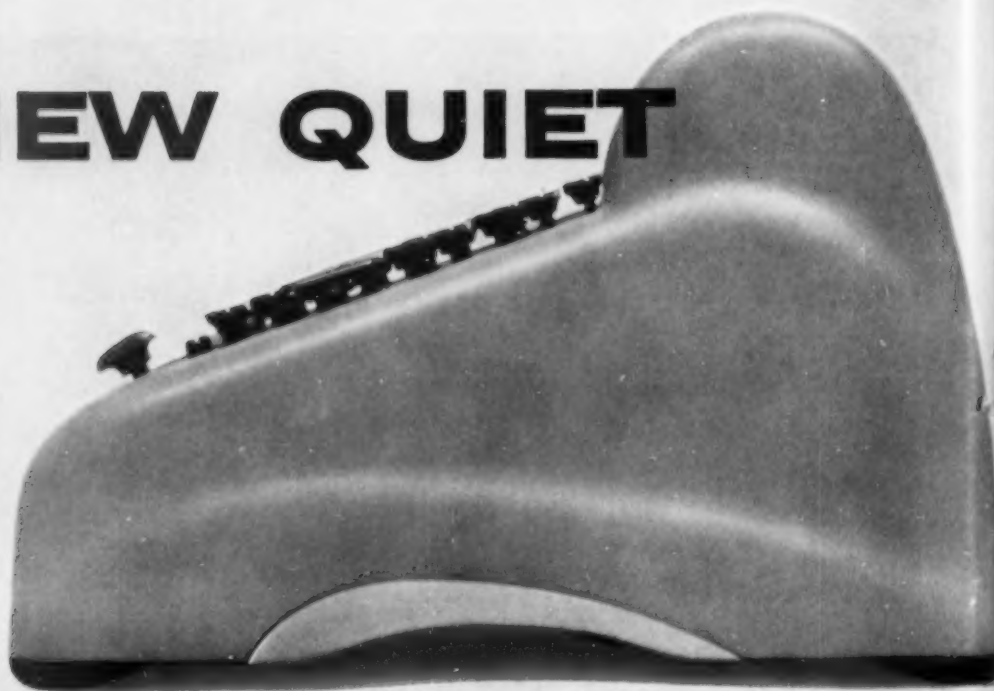
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